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*Paulum sepultae distat inertiae celata virtus.*– HORACE.

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NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

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## ORIGINAL COMMUNICATIONS.

### A Contribution to the Clinical History of Croupous Pneumonia.

*A report of Eleven Cases of Croupous Pneumonia occurring in private practice between the dates of Feb. and June,* 1878.

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(Read before the Med. Society of Dist. of Columbia, March 25, 1879.)

Croupous pneumonia is an endemic disease belonging to the class of infectious diseases.

It is only of comparatively recent date that the nature of this disease has been correctly understood, nor indeed is it even now admitted by all writers that the above proposition is true.

To Austin Flint in this country, and Meinyer Jürgensen and others in Europe, is due especial credit for pointing out with clearness the *natural history* of croupous or "lobar" pneumonia, and showing it to be a self limited disease, of constitutional character, in which the local inflammation in the lung is but a symptom of the general disturbance—just as is the affection of Peyer's patches in typhoid fever, or the skin eruptions in the exanthemata. The onset of croupous pneumonia is almost always sudden, preceded by a chill, in which it corresponds with other zymotic diseases. The lung lesion frequently does not appear until the 2d or 3d day—and then bears no constant relationship to the severity of the fever. The fever is regular

in its course with morning decline and evening exacerbation. At the sudden crisis, about the 7th day, the pneumonic inflammation often continues unabated, as indicated by the physical signs and quickened respiration—but the fever utterly disappears—the pulse and temperature becoming normal, and the appetite returning.

The disease is most prevalent in the presence of its exciting causes, chief of which is exposure to cold, wet weather; but we cannot believe, reasoning by analogy, that these conditions alone are sufficient to produce it.

In the cases reported below, no connection whatever existed between them, nor with any other case as far as could be ascertained; yetthere are instances occurring continually in the practice of physicians, that look suspiciously as though an element of contagion was present. Two or three years since I was called to a case of croupous pneumonia in a child—in a family of four children, all under the age of eight years. The parents were wealthy and the children hearty and robust—well cared for in a warm comfortable house, where they had the least possible exposure to cold. When the first child had been sick four or five days, the other three were all taken down at once with the same disease. All the cases ran the typical course to recovery.

Again in the winter of 1876 and 1877, I noted a case in a child 10 years of age, coming on without any unusual exposure to cold, and running the regular course to crisis on the 7th day and prompt recovery. Just at the time of the crisis a younger brother, aged 6 years, was attacked with the same sequence of symptoms and result.

These latter two cases made the greater impression, that my interest in them was closer than a merely professional one, and I was watching them night and day. Such cases create the suspicion that the disease is contagious, though only to a faint degree, and indicate that the period of incubation is a short one—from 4 to 7 days. If it is contagious, analogy would suggest the sputa from the diseased lungs as the principal source of contagion, just as are the enteric discharges of typhoid fever and cholera.

It would be inappropriate in an article of this description to

enter into a discussion of the diagnosis between croupous and catarrhal pneumonia, albeit the differences between the two present the strongest argument in favor of the zymotic character of the former.

Catarrhal pneumonia presents a picture exactly the opposite of that given above, except only as to physical signs—the insidious approach, the irregular character of the fever, no definite course, and especially the close sympathy between the lung disease and the general symptoms.

CASE I.—*Croupous Pneumonia at Base of both Lungs in an Adult.*

Mrs. S., Irish, 48 years of age; stout, healthy woman, who has had no sickness for many years.

February 28th, 1878.—Chill in evening, followed by fever and cough, after prolonged exposure to cold.

March 2d.—First saw the patient at 6, P. M., in bed, suffering no pain, but feeling sick and distressed. Carefully examined lungs, but could detect no sign of disease. Has occasional cough.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| March 2, A. M. | 3 | 96 | | | | |
| March 3, A. M. | 4 | 96 | 102 | 28 | $\frac{1}{3.44}$ | Still no crepitant rale. |
| March 4, A. M. | 5 | 96 | 105 | 28 | $\frac{1}{3\,44}$ | Abundant crepitus at base of right lung; slight crepitus at base of left lung. Ordered quin. sul. grs. xx at one dose; carb. ammon. mixt.; milk and beef tea. |
| March 5, A. M. | 6 | 100 | 104 | 32 | $\frac{1}{3.13}$ | Repeat quinine. Continue treatment. Oiled silk shirt. |
| March 6, A. M. | 7 | 108 | 105 | 28 | $\frac{1}{3.86}$ | Repeat quinine. Continue treatment. |
| March 7, A. M. | 8 | 100 | 103 5 | 32 | $\frac{1}{3.13}$ | Repeat quinine. |
| March 8, A. M. | 9 | 80 | 100.3 | 22 | $\frac{1}{3.64}$ | Quin. grs. ij. *ter die* ordered in place of dose of grs. xx. |
| March 9, A. M. | 10 | 80 | 98.5 | 16 | $\frac{1}{5}$ | Treatment continued. Profuse sweating. |
| March 11, A. M. | 12 | 80 | 99 | 15 | $\frac{1}{5.33}$ | Lung disease nearly disappeared. |

This patient was only seen once daily, and the record is therefore only for the morning, and does not show the antipyretic effect of the quinine; but according to the report of the nurses, each dose was followed by relief to the patient and reduction of fever, the latter rising again in the early morning hours. On the night preceding the 4th of March she was extremely ill; so much so that she insisted she was dying, and had the priest summoned to administer the last sacrament. There was no return of this extreme illness after the administration of the first dose of quinine, although the temperature arose equally high subsequently. The whole twenty grains of quinine were given between three and four o'clock, P. M., each day, and their effect in reducing fever lasted twelve or fourteen hours.

The 5th, 6th and 7th days of the disease were the worst. Defervescence began on the 8th day from the initiatory chill occupying 48 hours, but was not complete until the 10th day, ending in profuse sweating. There was no sudden crisis.

Sweating still continued when attendance was closed, March 11th. The local disease was principally in the lower lobe of the right lung, posteriorly; the lower lower lobe of the left lung was slightly affected. There was no stage of complete hepatization, the crepitant rale being abundant during the whole course of the attack. Cough, expectoration and pain were insignificant. The pain complained of was in the right side, in front.

Recovery was prompt. Average pulse respiration ratio $\frac{1}{3.81}$.

CASE II.—*Croupous Pneumonia of both Lungs in an adult.*

James M., Irish, 37 years of age, stone polisher; is a drinking man; drinking by sprees, but sober in the interval; good constitution.

Was taken sick March 5th, 1878, with chill followed by pain in the left side in front, and sweating. Painful cough. Continued to work until March 9th. March 10th, first seen. Severe pain in cardiac region, causing dyspnœa and suppressed cough. Profuse sweating. Auscultation shows pneumonia in lower segment of left lung. Respiration in right side normal.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n. | Pulse respiration, ratio. | SYMPTOMS, ETC. |
|---|---|---|---|---|---|---|
| March 10, A. M. | 6 | 116 | 105 | 48 | 1 / 2.42 | Rusty sputa; carb. ammon. gr. v every 4 hours. |
| March 11, A. M. | 7 | 116 | 105.7 | 36 | 1 / 3.22 | Pain and dyspnœa very distressing. Quinine grs. xx at one dose. |
| March 11, P. M. | .. | 100 | 102 | 28 | 1 / 3.57 | General condition greatly improved; cough and pain continue. |
| March 12, A. M. | 8 | 104 | 104 | 28 | 1 / 3.71 | Quinine grs. xx repeated; crepitation in lower lobe, right lung. |
| March 12, P. M. | .. | 100 | 102.7 | 32 | 1 / 3.12 | Chloral grs. xx; morphia gr. ¼, to relieve pain and produce sleep. |
| March 13, A. M. | 9 | 112 | 105 | 44 | 1 / 2.54 | Pain not relieved. Ordered bath at 88° for 10 minutes in wash tub, in place of quinine. |
| M'ch 13, 3 P. M. | .. | 108 | 101.5 | 30 | 1 / 3.60 | Great relief. |
| M'ch 13, 9 P. M. | .. | 92 | 100.3 | 28 | 1 / 3.28 | Repeated chloral and morphia. |
| March 14, A. M. | 10 | 108 | 105 | 44 | 1 / 2.45 | Fever rose again at 2, A. M.—14 hrs. after bath. Repeat bath and in addition quinine grs. xx. |
| M'ch 14, 5 P. M. | .. | 96 | 103 | 44 | 1 / 2.18 | Middle and lower lobes of right lung hepatized; returning crepitation in left lung. |
| M'ch 14, 9 P. M. | .. | 88 | 100.5 | 32 | 1 / 2.75 | Whiskey f.ʒss every 2 hours. |
| March 15, A. M. | 11 | 84 | 102 | 36 | 1 / 2.33 | Repeat quinine grs. xx. |
| M'ch 15, 9 P. M. | .. | 72 | 100.2 | 40 | 1 / 1.80 | |
| March 16, A. M. | 12 | 68 | 99 5 | 36 | 1 / 1.88 | Left lung improving; condition of right lung unchanged. |
| M'ch 16, 9 P. M. | .. | 76 | 100.3 | 32 | 1 / 2.37 | Profuse sweating. |
| March 17, A. M. | 13 | 64 | 99 | 36 | 1 / 1.50 | Profuse sweating. |
| March 18, A. M. | 14 | 78 | 99 | 32 | 1 / 2.43 | Profuse sweating. |
| March 19, A. M. | 15 | 76 | 100 | 28 | 1 / 2.78 | Profuse sweating. |
| March 20, A. M. | 16 | 68 | 98 | 28 | 1 / 2.43 | Ordered cit. quinine and iron gr. v. and cod liver oil f.ʒss 3 times a day. |

(CONTINUED.)

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n. | Pulse respiration, ratio. | SYMPTOMS, ETC. |
|---|---|---|---|---|---|---|
| March 21, A. M. | 17 | 68 | ..... | 24 | $\frac{1}{2.83}$ | |
| March 22, A. M. | 18 | 68 | 99 | 24 | $\frac{1}{2.83}$ | Appetite returning. |
| March 29, A. M. | 25 | 76 | ..... | .. | ..... | Severe headache. Ordered brom. potas. grs. xxx *ter die.* |
| April 1st. | 28 | 80 | ..... | .. | ..... | Returning rales in right lung; left lung normal; convalescing, but still very weak. |

This case is a type of the severer form of croupous pneumonia. Defervescence did not begin until the 10th day from the initiatory chill, and cannot be said to have been completed until the 16th day, a period of six days, so that the termination of the febrile symptoms was by *lysis* rather than *crisis.* It is to be noticed, as bearing on the question of diagnosis between *croupous* and *catarrhal* pneumonia, that on the twelfth day, when the pulse had returned to 68, and the temperature to 99.5°, the diseased process in two-thirds of the right lung continued unabated. The record of the case shows most conclusively the antipyretic effect of quinine in gr. xx. doses, as well as of the tepid bath.

On the morning of the 7th day the thermometer indicated a temperature of 105.7°; gr. xx. of quinine was administered, and in the evening the pulse had fallen to 100 from 116, and the temperature to 102°, a decline of 3.7° in seven hours. So on the following day there was a similar fall of 1.3°.

On the morning of the 9th day the pulse was 112, and temperature 105°. Quinine having been given two consecutive days, it was deemed advisable to substitute the warm bath. In nine hours the pulse had fallen twenty beats, and the temperature four and seven-tenths degrees. This could not be attributed to the *crisis*—for on the morning of the 10th day, the fever again arose to 105°. On this day, the bath and quinine were both given, and defervescence set in. Carbonate of ammonia was given all through the attack, and beef tea and milk relied upon for nourishment—both being taken freely.

The pleuritic pain in this case was very distressing and was complained of in front, although the pneumonic inflammation was mostly posterior. Average pulse respiration ratio $\frac{1}{2.80}$

CASE III.—*Croupous Pneumonia in the Lower Lobe of Right Lung, in a Young Child.*

Alvin M., male, aged 3 years; plump, healthy child. Taken sick March 28, 1878. First seen March 29th, when pneumonia was developed in the lower lobe of right lung. Dyspnœa marked.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respir'n. | Pulse-respiration ratio. | SYMPTOMS AND REMARKS. |
|---|---|---|---|---|---|---|
| 1878. | | | | | | |
| March 29, A. M. | 2 | 128 | 104 | 80 | $\frac{1}{1.60}$ | Warm bath ordered every 4 hours. |
| March 30, A. M. | 3 | 128 | 101.7 | 40 | $\frac{1}{3.20}$ | |
| March 30, P. M. | 3 | 140 | 104 | 56 | $\frac{1}{2.50}$ | Quin. gr. v. at one dose. |
| March 31, A. M. | 4 | 148 | 103 | 40 | $\frac{1}{3.70}$ | do. do. do. |
| April 1, A. M. | 5 | 120 | 100.3 | 40 | $\frac{1}{3.00}$ | do. do. do. |
| April 2. | 6 | | | | | Great improvement. Pulse, etc. not recorded. |
| April 3. | 7 | | 101.5 | 28 | | |
| April 4. | 8 | | | | | Convalescent. Visits discontinued. |

The antipyretic effect of the quinine was very decided, but does not show in the chart, for the reason that but one visit was made daily after its administration was commenced. The termination was by lysis—the period of defervescence extending over seventy-two hours, from the 5th to the 8th day.

Average pulse respiration ratio $\frac{1}{2.80}$

CASE IV.—*Croupous Pneumonia in an Adult, Right Lung, Asthenic Form—Death on the 9th Day.*

D. J. B., aged 56 years, American, rather slender built, weight, about 140 lbs; conductor on street cars.

March 9th, 1878.—Had slight chill, followed by fever, cough and dyspœna. Continued to work until evening of March 10th, but "laid off" and went to bed March 11th.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| March 12, A. M. | 4 | 108 | 104.8 | 30 | 1/3.60 | Crepitant rale with marked dullness over middle lobe of right lung. "Prune juice" expectoration—harassing cough; dyspnœa marked; anxious countenance. Ordered quin. grs. xx. at one dose. Carb. ammon. and milk punch freely. Repeat quinine grs. xx. Beef tea and stimulants *ad. lib.*; dusky flesh on cheeks, oiled silk shirt around chest. |
| M'ch 13, 2 P. M. | 5 | 104 | 103.5 | 28 | 1/3.71 | Upper and middle lobe right lung solid, and crepitant rale heard in lower lobe. Dyspnœa greatly increased. Expectoration of same character and more in quantity. |
| March 14, 12 M. | 6 | 108 | 104 | 32 | 1/3.37 | Condition about the same; expectoration same; cough very troublesome, preventing sleep. Ordered tepid bath to be followed by quinine grs. xx.; morphia and chloral mixture to control irritable cough. Beef tea and milk punch continued. |
| March 15, 12 M. | 7 | 96 | 102.5 | | ..... | Expectoration less in quantity and not so bloody; cough in a measure relieved by anodyne mixture. Quantity of whiskey increased to oz. ss every two hours. |
| March 16, A. M. | 8 | 100 | 103 | 34 | 1/2.94 | Passed a bad night. Watchers went to sleep, so that he got neither medicine nor nourishment during the night. Got out of bed himself to get water. Right lung entirely hepatized; dyspnœa very distressing; cyanosis marked; larynx rises and falls during respiration; supraclavicular spaces sink in. Ordered camphor grs. iij. in emulsion every two hours, and to push whiskey and beef tea. Dyspnœa still greater and cyanosis more marked. Treatment continued. |
| M'ch 16, 10 P. M. | 8 | 104 | 103 | 36 | 1/2.88 | Dying. |
| March 17, A. M. | 9 | 120 | 103 | 40 | 1/3.00 | Died at 2 P. M. |

In this case there were prodromal symptoms for two weeks before the onset of the disease. The patient's habits of life had formerly been irregular, but for the past several years had been correct.

The record of pulse, temperature and respiration would not indicate a severe attack of the disease, but the accompanying symptoms of distress, cyanosis and "prune juice" expectorations pointed clearly to a severe case. The pulse, three hours before death, was but 120, and temperature 103°.

It is a matter of great regret that just at the most critical period of the disease—the night between the 7th and 8th day—he should have been neglected by the sleepiness of those in charge of him. Had the stimulants and nourishment been kept up regularly during this time, and the patient been prevented from getting up out of bed, a different result might reasonably have been expected.

The record of pulse and temperature shows a remarkably low average for a fatal case.

Average pulse respiration ratio $\frac{1}{3.25}$

CASE V.—*Croupous Pneumonia, Lower Lobe of Right Lung, in an Infant.*

Ed. O'C., healthy infant, aged 22 months. Taken with chill followed by fever, March 29th, 1878. Supposed by family to have intermittent fever. Was not seen until 4th day, when pneumonia was found developed in lower lobe of right lung, crepitant rale being distinct, with dullness on percussion.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respiration | Pulse respiration ratio. | REMARKS. |
|---|---|---|---|---|---|---|
| April 1, A. M. | 4 | 192 | 106 | 48 | $\frac{1}{4.00}$ | Warm bath and quin. grs. iv. at once. |
| April 1, P. M. | 4 | 160 | 102.5 | 52 | $\frac{1}{3.07}$ | |
| April 2, A. M. | 5 | 160 | 103 | 56 | $\frac{1}{2.85}$ | Repeat bath and quinine. |
| April 3, A. M. | 6 | 112 | 98 | 40 | $\frac{1}{2.80}$ | Attendance discontinued. |

Average pulse-respiration ratio $\frac{1}{3.13}$

Termination by crisis on the 6th day.

The violence of the symptoms on the 4th day, as indicated by pulse of 192 and temperature of 106°, were such as to create serious doubts as to the result; but the prompt effect of the warm bath and quinine in alleviating the alarming condition was altogether satisfactory.

The temperature fell 3.5° and the pulse 32 beats per minute in six hours, which was not due to the crisis of the disease, the temperature rising to 103° the following morning.

CASE VI.—*Croupous Pneumonia, affecting whole of Right Lung, in a Young Child.*

Louisa H., German parentage, 3½ years old; robust, healthy child. Taken sick with chill, followed by fever on the 1st of April. Was sent for on the morning of April 2d, on account of violent convulsion which had been preceded by vomiting.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respiration. | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| April 2, A. M. | 2 | 160 | 104 | .. | .... | Convulsion and vomiting. Calomel grs. i. every 4 hours; also brom. potas. grs. v., co. spt. aeth. gttxv. |
| April 2, P. M. | .. | 148 | 105.5 | .. | .... | every 4 hours alternately with calomel. |
| April 3, A. M. | 3 | 148 | 105.7 | .. | .... | Diarrhœa. Stop calomel. Warm bath and quin. grs. v. |
| April 3, P. M. | .. | 132 | 103.5 | .. | .... | Have been examining lungs at each visit, but found no sign of disease until now, when pneumonia is discovered in the base of right lung. Carb. ammon. grs. iv. every 4 hours. |
| April 4, A. M. | 4 | 140 | 105 | 56 | $\frac{1}{2.50}$ | Dr. S. C. Busey in consultation. Quin grs. v. repeated. Syr. senegae added to carb. ammon. mixt. |
| April 4, P. M. | .. | 128 | 103.5 | 44 | $\frac{1}{2.90}$ | Beef tea and milk punch for nourishment. |
| April 5, A. M. | 5 | 144 | 105.8 | 76 | $\frac{1}{1.89}$ | Dr. Busey in consultation. Nearly whole of right lung hepatized. Quin. repeated. |
| April 5, P. M. | .. | 132 | 103 | 56 | $\frac{1}{2.35}$ | Orders left to repeat quin. if fever increased, and it was done at 2 A. M |

(CONTINUED.)

| DATE. | Day of Disease. | Pulse. | Temperature. | Respiration. | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| April 6, A. M. | 6 | 136 | 105.3 | 64 | $\frac{1}{2.12}$ | Dr. Busey in consultation. |
| 5 o'clock, P. M. | .. | 132 | 103.5 | 64 | $\frac{1}{2.06}$ | An attack of syncope, apparently from cough and dyspnœa. Whiskey administered freely. |
| 9 o'clock P. M. | .. | 128 | 104 | 60 | $\frac{1}{2.13}$ | Has revived. |
| April 7, A. M. | 7 | 132 | 103.5 | 56 | $\frac{1}{2.35}$ | Dr. Busey in consultation. |
| April 7, P. M. | .. | 136 | 105 | 60 | $\frac{1}{2.26}$ | Repeat quinine. |
| April 8, A. M. | 8 | 110 | 98 | .. | | Dr. Busey in consultation. |
| April 8, P. M. | .. | 92 | 98 | 32 | $\frac{1}{2.87}$ | |
| April 9, A. M. | 9 | 120 | 101.5 | 56 | $\frac{1}{2.14}$ | Headache. |
| April 10, A. M. | 10 | 116 | 98.5 | .. | | Returning rales in right lung. |
| April 11, A. M. | 11 | 92 | ..... | 28 | $\frac{1}{3.64}$ | |

Average pulse-respiration ratio $\frac{1}{2.43}$

The bowels were loose from the start, sufficiently so to require use of starch water and laudanum enemas and bismuth powders to check the frequency of the loose watery discharges. The pneumonic inflammation did not develop so as to be recognized until the evening of the 3d day, although the lungs were carefully examined each visit in consequence of the doubt as to the diagnosis. The local disease was confined to the right lung, but so crippled the entire lung that death was imminent from suffocation from the 5th to the 7th day of the attack.

The crisis occurred suddenly on the 8th day, with relief of all the symptoms except the frequent respiration, which was governed by the local disease in the lung. The effect of the quinine was very regular in reducing the temperature from 1.5° to 2.8° after each administration, this effect lasting about twelve hours. In this case the administration of the quinine was followed each time by quiet sleep of three or four hours—with a fall in pulse and temperature indicated.

CASE VII.—*Croupous Pneumonia at Base of Left Lung, in a Young Child.*

Louis H., aged 5 years, strong, hearty child. Taken sick on the night of April 9th with chill. First seen evening of April 10th, when the crepitant rale was abundant at the base of the left lung.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respir'n. | Pulse-respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| April 10, P. M. | 2 | 140 | 103.5 | 44 | $\frac{1}{3.18}$ | Flaxseed poultice to chest. Fever mixture of sweet spirits of nitre and spirits mindererus. |
| April 11, A. M. | 3 | 132 | 103 | 44 | $\frac{1}{3.00}$ | |
| April 12, A. M. | 4 | 132 | 100.3 | 40 | $\frac{1}{3.30}$ | |
| April 13, A. M. | 5 | 100 | 98.5 | 32 | $\frac{1}{3.12}$ | Resolution of the lung disease commenced. |

This case is interesting as illustrating the mild or abortive form of croupous pneumonia. The diagnosis was clear, but the diseased action in the lung was hardly set up, before it began to decline; and, on the 5th day, when the crisis occurred, he was to all appearance well.

I had an exactly similar case in the child of Mr. J. H. S., aged 4 years, the notes of which I have unfortunately lost. The initiatory fever in this latter case however rose to 105.5°, but the local disease aborted just as above, and the patient was well suddenly. I believe that many of the cases of so-called "*ephemeral fever*" referred to by the older writers, belong to this form of croupous pneumonia.

Tetmination by crisis on 4th day.

Average pulse respiration ratio $\frac{1}{3.12}$

CASE VIII.—*Croupous Pneumonia in Adult in Lower Lobe of Left Lung.*

D. P. M., aged 58 years, cabinet maker by trade, slender build and rather delicate in appearance. Was taken with chill

April 15th, 1878. Had been troubled with a cough for two weeks previously.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration, ratio. | REMARKS AND TREATMENT. |
|---|---|---|---|---|---|---|
| April 18, A. M. | 4 | 104 | 104 | 20 | $\frac{1}{5.20}$ | Pneum. of lower lobe of left lung. Quinine grs. xv. |
| April 19, A. M. | 5 | 88 | 102.5 | 18 | $\frac{1}{4.88}$ | Cough troublesome with pain, left side. No rusty sputa. |
| April 20, A. M. | 6 | 104 | 103 | 18 | $\frac{1}{5.77}$ | Repeat quinine. Carb. ammon., grs. v. every 4 hours. |
| April 21, A. M. | 7 | 84 | 100.5 | .. | ..... | Quinine ordered grs. iij 3 times a day. |
| April 22, A. M. | 8 | 68 | 98.7 | 16 | $\frac{1}{4.25}$ | Profuse sweating. |
| April 25, A. M. | 11 | 52 | 98 | 12 | $\frac{1}{4.33}$ | |

Average pulse respiration ratio, $\frac{1}{4.88}$

This patient was very weak and recovered strength slowly. The previous history, as indicated by the symptoms of bronchial catarrh preceding the onset of pneumonic inflammation, would seem to point to catarrhal pneumonia, but rapid course of fever, terminating in *crisis*, between the 7th and 8th day, clearly establish the diagnosis of croupous pneumonia. As in Case IV, there were present prodromal symptoms for two weeks before the iniatitory chill. Defervescence carried the pulse and respiration below the normal.

CASE IX.—*Croupous Pneumonia in an Adult in Lower Lobe of Left Lung.*

John D., 45 years of age. Never sick, but not robust. Was taken with a chill April 18th, 1878. First saw him April 20th, when he was sufering with acute pain in left side, *in front*, painful cough with rusty sputa. Auscultation discovers pneumonia in the lower lobe of the left lung.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respir'n. | Pulse-respiration, ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| April 20, A. M. | 3 | 120 | 103.2 | 18 | $\frac{1}{6.66}$ | Fever mixt. of sweet spirits nitre and liq. am. acet. Chroral and morphia to relieve pain. |
| April 21, A. M. | 4 | 120 | 104.5 | 28 | $\frac{1}{4.3}$ | Quin. gr. xv. at one dose. |
| April 22, A. M. | 5 | 116 | 103.2 | 28 | $\frac{1}{4.14}$ | Quin. gr. xv. repeated. Left lobe of left lung hepatized. |
| April 23, A. M. | 6 | 120 | 102 | 30 | $\frac{1}{4.00}$ | Quin. gr. xv. repeated. Carb. ammon. gr. v. every 4 hours. |
| April 24, A. M. | 7 | 92 | 99 | 24 | $\frac{1}{3.83}$ | Diarrhœa. Profuse sweating. Carb. ammon. stopped. Quinine gr. iij. 3 times a day. Beef-tea and milk punch. |
| April 25, A. M. | 8 | 68 | 95.5 | 12 | $\frac{1}{5.66}$ | Returning crepitation in lung. |
| April 28, A. M. | 11 | ... | ..... | ... | ..,. | Patient down-stairs sitting, but very weak. Crepitation rale still distinct in lower portion of left lung. |

Average pulse, respiration, ratio $\frac{1}{4.77}$

Termination by crisis on the 7th day. On the 8th day the temperature fell to 95.5°, with respirations only twelve per minute. There is a very great similarity between this case and the preceding one, the recovery from the lung disease being protracted. Defervescence below the normal, both as to temperature and respiration.

### Case X.—*Croupous Pneumonia in Upper Lobe of Right Lung in a Young Child.*

Samuel S., aged 3 years, robust, healthy child. Had attack of spasmodic croup May 24th. Was taken with chill, followed by fever, quick breathing and flushed face May 26th, 1878.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration ratio. | REMARKS. |
|---|---|---|---|---|---|---|
| May 27, A. M. | 2 | 148 | 103.8 | 44 | $\frac{1}{3.36}$ | Warm bath ordered. |
| May 27, P. M. | .. | 132 | 101.5 | 44 | $\frac{1}{3.00}$ | Pneumonia of upper lobe right lung. |
| May 28, A. M. | 3 | 148 | 102 | 52 | $\frac{1}{2.84}$ | |
| May 29, A. M. | 4 | 152 | 104.5 | 72 | $\frac{1}{2.10}$ | Wet towel around chest renewed every two hours; carb. ammonia mixture. |
| May 29, 9 P. M. | .. | 132 | 102 | 56 | $\frac{1}{2.35}$ | |
| May 30, A. M. | 5 | 120 | 101.7 | 40 | $\frac{1}{3.00}$ | |
| May 31, A. M. | 6 | 120 | 101.7 | 40 | $\frac{1}{3.00}$ | |
| June 1. | 7 | 104 | 99 | 40 | $\frac{1}{2.60}$ | Resolution of lung disease prompt and complete. |

Average pulse respiration ratio $\frac{1}{2.78}$

Termination by crisis on the 7th day.

Attention is called to the application of the wet towel in infants as a substitute for bathing. This child struggled and fought so against the bath that it was deemed unwise to persevere in its use, the excitement attending its administration antagonizing its good effects. A large towel was folded lengthwise, dipped in water at temperature of 80° and wrapped around, the chest being covered with dry flannel. This was changed every two hours, with the most satisfactory effect. The child does not rebel against this treatment, it is quickly done, and in my experience, is a most valuable aid in reducing temperature in infants.

When we bear in mind that in early life the limbs bear a much smaller proportion to the body than in adults, and that in children the intensity of fever is greatest in the body and head, the value of this mode of application becomes apparent, and when conjoined with cold applications to the head, fulfills the whole indication of the antipyretic use of water. I am speaking

only of young children, and in them this has been a favorite method of controlling fever for several years. Of course, where the fever is the more intense, the wet towel must be changed the more frequently.

CASE XI.—*Croupous Pneumonia, occurring during the incubation of Measles and followed immediately by that disease.—Pneumonia in middle lobe of right Lung.*

W., aged 3 years, girl, healthy child. Has been exposed to contagion of measles for a week, another child being down sick with it in the same house. Has had fever every other day for several days, and a teasing cough.

Was taken June 1st, in the morning, with a chill, and about noon had a violent convulsion.

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| June 1, 1878... | 1 | ... | ..... | .. | .... | Convulsion following chill. ℞—Brom. potas. grs. vi., elix. val. ammon. ʒi. every 3 hours for 3 doses. Rested well all night. |
| June 2, 12 M. | 2 | 224 | ..... | .. | .... | Capillary congestion almost as dark as scarlatina. Cincho. quin. grs. iij. every 6 hours; spts. aeth. nit. and liq. ammon. acet. for febrifuge; occasional doses of bromide with tr. opium gtt. iij. |
| June 2, 4 P. M. | .. | 200 | 104 | .. | .... | |
| June 3, 9 A. M. | 3 | 180 | 105 | .. | .... | |
| June 3, 12 M. | .. | ... | 103.3 | .. | .... | |
| June 4, 2 A. M. | 4 | 180 | 104.3 | .. | .... | Quinine grs. iij. |
| June 4, 8 A. M. | .. | 144 | 101.4 | .. | .... | Irritating cough of most distressing character and almost continual; child greatly exhausted; percussion dull over middle lobe of right lung, which also gives crepital rale on auscultation. Ordered tr. opii deod. gtt. iv. every 4 hours until spasmodic cough is relieved. |
| June 4, 10 A. M. | .. | 160 | 100 | . | .... | |
| June 4, 5 P. M. | .. | 154 | 105 | .. | .... | Cincho quin. grs. iij.; carb. ammon. and syr. senegae in emulsion; soap liniment freely to chest. |
| June 5, 5 A. M. | 5 | 140 | 99·5 | .. | .... | Cough still distressing, no appetite. |
| June 5, 12 M. | .. | 136 | 98.3 | 30 | 1/4.53 | Occasional doses of opium as required; beef tea and milk punch *ad libitum.* |
| June 5, 5 P. M. | .. | ... | 99.8 | 36 | .... | Dr. C. E. Hagner in consultation. |
| June 6, 8 A. M. | 6 | 134 | 98.4 | 40 | 1/3.35 | Dr. H. in consultation. Treatment continued. |
| June 6, 8 P. M. | .. | 150 | 103 | 44 | 1/3.40 | Eruption of measles beginning to appear. Resolution taking place in lung. |

(CONTINUED.)

| DATE. | Day of Disease. | Pulse. | Temperature. | Respira'n | Pulse respiration ratio. | TREATMENT AND REMARKS. |
|---|---|---|---|---|---|---|
| June 7, 6 A. M. | 7 | 120 | 100 | 30 | 1/4.00 | Dr. H. in consultation. |
| June 7, 10 P. M. | .. | 160 | 103.2 | 60 | 1/2·66 | Warm bath. |
| June 8, 1 A. M. | 8 | 160 | 103.2 | 70 | 1/2.28 | Quinine grs. iij. |
| June 8, 8 A. M. | .. | 144 | 102 | 66 | 1/2.18 | |
| June 8, 5 P. M. | .. | 164 | 104 | 72 | 1/2·25 | Collapse in middle lobe of right lung. |
| June 8, 8 P. M. | .. | 170 | 105.2 | 70 | 1/2.42 | Quinine grs. v; carb. ammon. mixt. and stimulants freely. |
| June 9, 2 A. M. | 9 | 144 | 102.4 | 60 | 1/2.40 | |
| June 9, 6 A. M. | .. | 128 | 99.6 | 54 | 1/2.37 | Oiled silk shirt. |
| June 9, 8 P. M. | .. | 144 | 101 | 36 | 1/4.00 | Sulph. quin. grs. v. |
| June 10..... | 10 | 120 | 98.2 | 36 | 1/3.33 | Eruption fading; appetite returning. Phosphat. emulsion of cod-liver oil. |

Pulse-respiration ratio $\frac{1}{2.83}$

Crisis occurred on the 5th day of the pneumonia. On the 6th day from the initiatory chill the eruption of measles began to appear, with an increase of temperature to 103°. On the 8th day collapse of that portion of the lung affected by the pneumonia occurred, with sudden aggravation of all the symptoms. The most noticeable effect of the rubeola poison in the system was the intense irritative cough—the regular measles cough—so greatly aggravated that the father, who is a physician and watched the case most carefully, thought several times that she must die from exhaustion. This cough was relieved by full doses of opium and gradually disappeared as the eruption faded. The collapse of the lung was the only other symptom which could be ascribed to the complication of the two diseases, each disease with these two exceptions—of the intense irritative cough and the collapse—running a normal course as though the patient had but the one at a time. I must confess that I watched the development of the measles with great anxiety,

fearing and expecting the occurrence of an acute catarrhal pneumonia which would have proved quickly fatal in the weakened condition of the little patient.

The collapse of the lung rapidly disappeared under the free administration of tonics and stimulants.

The subsequent progress of this case was entirely favorable, and at this date (July, 1878), no trace of the severe illness remains, except a slight roughness of voice.

The following tables present in a condensed form an analysis of the more prominent symptoms occurring in the foregoing cases:

| CASE. | Age. | Sex. | Average* Pulse. | Average Temp.* | Average Pulse Resp'n Ratio. | ONSET OF DISEASE. | PORTION OF LUNGS AFFECTED. |
|---|---|---|---|---|---|---|---|
| I | 48 | F | 99 | 103.3 | $\frac{1}{3.87}$ | Sudden; ushered in by chill. | Lower lobe right lung principally; left lobe of left lung slightly. |
| II | 37 | M | 105 | 103.4 | $\frac{1}{2.80}$ | Not sudden; chill, after which worked 4 days before taking to bed. | Lower lobe of left lung and middle and lower lobe of right lung. |
| III | 3 | M | 133 | 102.6 | $\frac{1}{2.80}$ | Sudden; if chill did not know. | Lower lobe right lung. |
| IV | 56 | M | 106 | 103.4 | $\frac{1}{3.25}$ | Prodromal symptoms for 2 weeks; slight chill at onset. | Whole of right lung. |
| V | 22§ | M | 170 | 103.8† | $\frac{1}{3.18}$ | Sudden; chill. | Lower lobe right lung. |
| VI | 3½ | F | 123 | 104.3 | $\frac{1}{2.43}$ | Sudden; chill ushered in by convulsions. | Whole of right lung. |
| VII | 5 | M | 135 | 102.3 | $\frac{1}{3.12}$ | Sudden; chill. | Lower lobe left lung. |
| VIII | 58 | M | 95 | 102.5 | $\frac{1}{4.88}$ | Chill; prodomata for 2 weeks. | Lower lobe left lung. |
| IX | 45 | M | 119 | 103.2‡ | $\frac{1}{4.77}$ | Sudden; chill. | Lower lobe left lung. |
| X | 3 | M | 136 | 102.4 | $\frac{1}{2.78}$ | Sudden; chill, preceded by spasmodic croup. | Upper lobe right lung. |
| XI | 3 | F | 178 | 103.3 | $\frac{1}{2.83}$ | Chill; convulsions, preceded by a remittent fever; sudden. | Middle lobe of right lung. |

* Average pulse and temperature are estimated to time of beginning defervescence.

§ Months.

† On the 4th day of case V the temperature arose to 106°, the highest observed in any of the cases.

‡ In case IX, on the 8th day, the temperature fell to 95.5°.

| CASE. | PAIN. | COUGH. | SPUTA. | TERMINATION. |
|---|---|---|---|---|
| I | Right side in front. Not severe. | Neither frequent nor distressing. | Not significant | By crisis on 8th day, defervescence lasting 48 hours. Profuse sweating. Recovery prompt. |
| II | Very severe in cardiac region. | Very frequent and suppressed on account of pain. | Rusty, abundant. | By lysis; defervescence began on 10th day, and was not complete until 16th day, a period of 6 days. Profuse sweating. |
| III | Unable to locate it on account of age. | Insignificant. | Not seen. | By lysis from 5th to 8th day, occupying 72 hours. |
| IV | Severe, but marked by dyspnœa. | Very harassing, of irritable character. | "Prune juice" in character. Very abundant. | Death on 9th day from asphyxia. |
| V | Not noticed. | Insignificant. | Not seen. | By crisis on 6th day. Defervescence less than 24 hours. |
| VI | Not noticed. | Troublesome. | Not seen. | By crisis on 7th day. Defervescence less than 24 hours. |
| VII | None. | Insignificant. | Not seen. | By crisis on 4th day. Defervescence less than 24 hours. |
| VIII | Pain in left side anteriorly. | Troublesome from giving pain. | Not rusty. | By crisis on 7th day. Defervescence less than 24 hours. Profuse sweating. |
| IX | Pain severe in left side anteriorly. | Painful cough | Rusty. | By crisis on 7th day, Defervescense less than 24 hours. Profuse sweating. |
| X | Not noticed | Insignificant. | Not seen. | By crisis on 7th day. Defervescence less than 24 hours. |
| XI | Not noticed. | Cough paroxysmal, irritative, most harassing and exhausting. Constituted a dangerous element in the disease. | Not seen. | By crisis on 5th day. Defervescence less than 24 hours. |

An examination of these tables of summary of symptoms shows:

1st. As to *age*, that six of these cases were between the ages of one and five years. Five cases were adults between ages of thirty-seven and fifty-eight years. There was no case between the age of five and thirty-seven years.

2d. As to *sex*, eight were males and three females, or a percentage of males of 72.7 to 27.3 of females.

3d. *Pulse.*—The average pulse during the febrile stage for the adults was 105, while the same for the children was 145 beats per minute.

Nothing peculiar was noticed as to pulse, except that in the asthenic cases it was slower than in the sthenic cases, whereas it might naturally have been expected to be more rapid from the enfeebled state of the patient. The pulse kept pace very regularly with the temperature curve.

4th. *Temperature.*—The average temperature for the eleven cases to the commencement of defervescence was 103.1°, the highest recorded being 106° in an infant of twenty-two months, and the lowest 95.5° in Case IX, where the crisis oscillated the temperature to three degrees below the normal without apparent detriment to the patient. The typical morning depression and evening rise in temperature were interfered with by the antipyretic treatment and hence do not show in the record.

5th. *Pulse-Respiration Ratio.*—In the normal state of health the relation between the pulse and respiration is that of 1 to 4½, the pulse being taken at 72 per minute and respiration at 16, for an adult. About the same proportion exists in children, both being increased in the same ratio according to age.

The same thing is true in regard to febrile diseases which quicken the heart beats and breathing. The relative proportion is maintained as long as there is found at the same time no morbid condition of the thoracic viscera, but as soon as heart or lungs become implicated by diseased processes, the normal pulse-respiration ratio of one to four and a half is destroyed, and in the case of lung disease, other things being equal, the degree of variation becomes an accurate measure of extent to which the lung tissue is implicated.

It is, therefore, a most valuable factor in the early diagnosis of the form of lung inflammation at present under consideration, especially because, being an infectious fever, *ab initio*, the local lesion does not become apparent in many cases for two or three days (as in Case VI of this report) and the symptoms may all be referable with equal propriety to any of several of the zymotic fevers.

While, however, other symptoms fail to furnish any differential clue as to the precise nature of the fever, which we are about to be called upon to battle with, if the ratio between the pulse and respiration is augmented to any marked degree, we may be sure that in a very short time there will be found the crepitant rale, and dullness on percussion over some portion of the chest.

We have above an average pulse respiration ratio in the whole number of cases of $\frac{1}{3.33}$, but it would be more exact as expressing the true ratio existing between the pulse and respiration, in typical cases running a regular course, if we exclude cases VIII and IX, which are exceptional in presenting a pulse-respiration ratio less than normal, being rerpectively $\frac{1}{4.77}$ and $\frac{1}{4.88}$ Leaving out of account these two cases, we have from those remaining an average $\frac{1}{3.00}$, which probably expresses very nearly the true ratio existing between these prominent symptoms in croupous pneumonia.

6th. *The onset of the disease.*—An examination of the above table will show that the attack was ushered in suddenly by a chill in eight of the cases, and in two (VI and XI) in children, the succeeding fever was accompanied by convulsions.

In three cases, the commencement was gradual, in two of which (IV and VIII) there were decided prodromal symptoms for two weeks.

A chill was present in all the cases, except the third, and in that it was not observed, although from the age (3 years) of the child, it might easily have been overlooked.

7th. *The lung or part of lung affected.*—The whole of the right lung was involved in two cases, one of which proved fatal.

| | |
|---|---|
| Upper lobe of right lung attacked | 3 times. |
| Middle lobe of right lung attacked | 4 " |
| Lower lobe of right lung attacked | 6 " |
| Total | 13 " |
| Upper lobe of left lung attacked | 0 times. |
| Lower lobe of left lung attacked | 5 " |
| Total | 5 " |

In several instances more than one lobe was inflamed in individual cases, so that the whole number of lobes attacked in the eleven cases was eighteen. Marked preference is shown for the lower lobes, they being singled out in eleven out of the eighteen times.

Both lungs were affected in two cases. The right lung was involved eight times, and the left lung five times, giving a proportion between the two of eight to five, which corresponds very nearly with the statistics of the latest authorities.

8th. *Pain.*—In none of the cases occurring in children, was pain in the chest observed, and if present in any degree was certainly not severe, and could not be located.

In all the severe cases in adults, pain was a prominent symptom, and a cause of much suffering.

In every case where present, it was felt *in front to one side or the other* of the median line, according to the lung affected, while the pneumonic inflammation invariably approached nearer the surface—posteriorly.

9th. *Cough.*—Nothing peculiar to the disease under consideration appeared in the cough. It was present in all the cases, but in those unattended by severe pain from the pleuritic complication, it was insignificant. Where pain was marked, the cough became the most distressing, by aggravating a torment, which was quiescent as long as the patient remained undisturbed. In the fatal case, the cough was peculiarly harrassing, being almost constant, of a hacking character, and only absent from the influence of narcotics.

In the 11th case, the character of the cough was evidently influenced by the measles complication, and was of so serious a nature, that dangerous exhaustion resulted.

10th. *Sputa.*—Children under the age of five years very rarely expectorate, and in the six infantile cases no sputum was seen, although in some it was evidently abundant from the loose cough, and was swallowed. Of the five adults it was colored by blood in three cases, and not so in two.

In case IV, it was abundant, like "prune juice," and in the result verified the unfavorable prognosis of older writers from the presence of this symptom.

11th. *Termination.*—Termination was by crisis in eight cases;

by lysis in two, and death one. The crisis occurred in the first set as follows:

In 1 case on the fourth day.
In 1 case on the fifth day.
In 1 case on the sixth day.
In 4 cases on the seventh day.
In 1 case on the eighth day.

In the second set of two cases, terminating by lysis, the defervescence began in one on the 5th day and was complete on the 8th; and in the other case did not commence until the 10th day and was not complete until the 16th.

The exact time occupied by defervescence, where less than twenty-four hours, could not be determined, on account of sufficiently frequent daily visits not being made; nor, for the same reason, could the hour of the day when defervescence began be definitely fixed, but according to the reports of the nurses the improvement began shortly after the morning visit (11, A. M.), and continued through the night, taking the place of the usual evening exacerbation.

In seven cases, the time occupied in the reduction of temperature to the normal degree was *less* than twenty-four hours; in one case it was forty-eight hours; in one, seventy-two hours, and in one six days.

Profuse sweating accompanied the defervescence in four cases, which were also the most severe.

It will appear from the above record that the crisis may occur anywhere from the 4th to the 10th day, the 7th day being the one on which it most frequently takes place; also that the time of defervescence in a particular case is influenced by its severity, being earlier in mild cases and retarded in the graver forms.

Jürgensen (Ziemsen's Cyclop., vol. v., p. 54) gives a table of 721 cases, terminating all the way from the 2d day (eight cases) to the 18th day (two cases), of which 165 came to an end on the 7th day.

The cases above reported are susceptible of division into two groups, viz: sthenic and asthenic. In the former group are eight cases, including all the infants, which present no peculiarities, but are typical cases of croupous pneumonia.

In the latter group, the asthenic, are three cases (IV, VIII, IX)

which differ from the former in several important respects worthy of especial notice. Two cases (IV and VIII) were preceded for two weeks by prodromata of bronchial catarrh and *malaise*, which statistics show to be not common in this form of pneumonia.

In all three the pulse, temperature and respiration were very low, considering the gravity of the cases. In Case IV the pulse ranged from 96 to 120, the latter rate being but a few hours previous to death, when the the temperature was but 103° and respiration 40.

In Cases VIII and IX, the average pulse respiration ratio is $\frac{1}{4.88}$ and $\frac{1}{4.77}$ respectively, being in both less than that of health.

In Case VIII, defervescence carried the pulse down to 52 and respiration down to 12 per minute, and in Case IX the temperature fell to 95.5° and respiration to 12—all below normal.

A report of this character does not allow space for a full discussion of the question of diagnosis which might be opened by the consideration of these latter three cases, but it is clearly suggested, from a clinical point of view, that cases do continually occur where the diagnosis between croupous and catarrhal pneumonia will hinge upon the termination by crisis or lysis—about the usual time for such termination in the natural history of the former disease.

In Cases VIII and IX the termination was by crisis on the 7th day. In case IV death on the 9th day, but the history and symptoms so closely parallel the other cases that the diagnosis is not in doubt, and could life have been prolonged a day or two longer, there was every reasonable hope that the crisis would have taken place.

As to the preceding bronchial catarrh, whether that was a true prodroma or merely an *ante hoc*, is an open question—for there is no reason why croupous pneumonia should not be developed during the existence of a bronchitis, the same as though the latter did not exist, or just as in case XI it made its attack during the forming stage of measles.

*Treatment.*—It is of the utmost importance in connection with the treatment of croupous pneumonia, to take into consideration its natural history. It is an intensely febrile disease, self-

limited—running its course more rapidly perhaps than any other zymotic disease, and terminating with abrupt suddenness about the seventh day.

This order of sequence in the symptoms we may confidently predict under *any* plan of treatment not absolutely injurious, for the prognosis is in healthy subjects most favorable, being even more so in children than in adults.

It is a disease in which the physician can well afford to bide his time, and bear out the old rule, which I had firmly impressed upon me, when a student, by my venerable preceptor, the late Dr. Joshua Riley,—"To be sure if you can do no good, at least to do no harm."

There is no malady in the catagory of medicine, which yields to the medical attendant so much honor from the patient and his friends as the one under consideration, because in the very height of severe illness, the fever often reaching its maximum just before the crisis, the sick man is suddenly well, and of course the doctor and his last remedy get the credit for the cure.

Nor is it unfrequently the case that the physician himself is deceived, taking the *post hoc* for the *propter hoc*, and thinking that he has found a specific remedy. Happily this multiplication of specific remedies has received a check by the attention now given to the study of the natural history of disease, and tendency is to reduce rather than add to the already cumbersome materia medica by interposing a more correct knowedge of what would be the symptoms, course and termination in typical cases uninfluenced by drugs.

With regard to the disease which is the subject of this paper, this has of late years been very clearly set forth, and the duty of the medical attendant in the premises is very much simplified.

It is to guide the case, guard against excessive fever, support the strength and watch for complications, in other words antipyretic and supporting. The danger to be apprehended is principally two-fold, indirectly from cardiac debility due to intense fever and lung obstruction, and directly from the extent of the lung disease.

The high temperature is to be combatted by baths and quinine. A reference to the temperature record of the above cases

shows characteristically the effect of this treatment upon the fever heat, but it does not and cannot express the great relief accompanying it to the patient, of distressing symptoms. I have never used *cold* baths in this disease, but have prepared water at a temperature of 90° and reduced it ten degrees during the fifteen minutes occupied in administering it.

Not that I believe any risk would be run by making the bath cold, but experience goes to show that quite as great reduction of temperature is obtained from the above graduated bath, with certainly greater comfort to the patient, and less violence to the prejudices of friends.

If we consider for a moment the modus operandi by which the bath is an effective measure in reducing temperature, I think we will be disposed to admit that the warm bath should have the preference.

The *skin* is the organ by which the balance of temperature is preserved between the internal structures and external surface, and through the agency of the blood. A very great extent of surface in the capillary vessels of the skin, is exposed to the cooling influence of the external air with every pulsation of the heart, and the extent to which the surplus heat of body combustion is got rid of, is exactly in proportion to the amount of blood so exposed to the air in the skin, and the condition of the skin at the time.

The application of cold contracts the capillaries of the skin, and drives the blood away from the surface towards the internal organs.

This is the effect of a cold bath, and although the reduction of temperature in the blood still remaining in the skin is greater than from a tepid bath, still the aggregate effect will be less.

The warm bath relaxes the skin and invites blood to the surface, while the difference in temperature between water at 90° and fever heat (104° or upwards) is quite sufficient to give a decided clinical result.

In addition, the absence of shock and greater feeling of comfort to the patient is an advantage of the warm bath not to be overlooked.

In some of these cases, where the convenience of a bath tub

was not to be had, a common washing tub was used, the patient sitting in it, covered over the shoulders with a blanket, and this was found to be an efficient substitute.

Whenever the patient became prostrated from the fever, or oppressed by the dyspnœa, the baths were discontinued and quinine relied on as an antipyretic. In children, if the baths were the occasion of struggling and screaming, they were not insisted on, the wet towel* and quinine being resorted to.

The dose of quinine given to adults was from grs. xv to grs. xx, and was found to be sufficient.

The reduction in temperature varied in different cases from 1.5° to 4.7°, and lasted about fourteen hours from the time of administration. A dose given at mid-day would show decided effect in three hours, reach its maximum at 9 o'clock, P. M., and the temperature would begin to rise about 2 o'clock, A. M.

In the severer cases the temperature would be again the following morning as high as before its administration. In the milder cases the fever did not appear to rise as high any more after the first dose of quinine.

In some of the cases, especially marked in Case VI, it produced a decided hypnotic effect, every full dose being followed by quiet sleep.

Dr. S. C. Bussey, who was in consultation in this case, said he had frequently noticed the same effect. He had had his attention first called to it by Dr. Jas. C. Hall, of this city, a most acute observer, who had been in the habit for years of giving quinine at bedtime, with the double purpose of promoting sleep and at the same time avoiding the annoyance of noises in head occasioned by this agent.

Stimulants were administered as required. Carbonate of ammonia as a special cardiac stimulant where the respiration was embarrassed.

Milk and beef tea were relied on for nourishment.

*Season of the Year.* All the cases here reported occurred between the months of February and June inclusive, and eight out of the eleven were attended in March and April, four for each month.

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* See Case X.

One case was noted in February, one in May, and one in June, the latter having its onset on the first day of the month.

From the occurrence of the last case to the present date (September 10th) I have seen but one case, a child three years of age, who was taken sick August 28th.

By courtesy of the Health Officer of the District of Columbia, Dr. Smith Townshend, I am enabled to append a report of 1915 deaths from pneumonia during a period of six years and eight months, from January 1st, 1872, to July 31st, 1878.

DISTRICT OF COLUMBIA, BOARD OF HEALTH.
OFFICE OF HEALTH OFFICER.
Washington, August 10th, 1878.

*Dr. D. W. Prentiss*, 1224 *Ninth Street N. W.*

Sir—In reply to your letter of the 2d inst., I transmit herewith table showing number of deaths from pneumonia in the District of Columbia from January 1, 1872, to August 1, 1878.

Prior to August, 1874, there was no law requiring physicians to furnish certificates of deaths to the Health Department, and no permits for burials were required, hence the "table" is not reliable prior to that date, although it contains every case reported to the Health department to that date. Regretting my inability to furnish more complete information,

I remain, very respectfully,

SMITH TOWNSHEND, M.D.,
*Health Officer.*

*Statement of Deaths from Pneumonia in the District of Columbia, January 1st, 1872, to July 31st, 1878.*

| YEARS. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | TOTAL. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1872..... | 12 | 21 | 20 | 22 | 17 | 11 | 1 | 9 | 3 | 10 | 9 | 16 | 151 |
| 1873..... | 27 | 14 | 13 | 13 | 6 | .... | 6 | 2 | 4 | 5 | 7 | 13 | 110 |
| 1874..... | 22 | 14 | 26 | 19 | 19 | 2 | 6 | *18 | 9 | 20 | 18 | 40 | 213 |
| 1875..... | 81 | 69 | 87 | 47 | 19 | 17 | 4 | 14 | 14 | 24 | 28 | 42 | 446 |
| 1876..... | 51 | 52 | 78 | 66 | 41 | 8 | 7 | 11 | 14 | 16 | 22 | 31 | 397 |
| 1877..... | 58 | 61 | 54 | 33 | 25 | 18 | 6 | 7 | 5 | 13 | 21 | 26 | 327 |
| 1878..... | 48 | 40 | 45 | 34 | 49 | 35 | 20 | .... | .. | .... | .... | .... | 271 |
| Totals. | 299 | 271 | 323 | 234 | 176 | 91 | 50 | 61 | 49 | 88 | 105 | 168 | 1915 |

*Absolutely correct from August 1874, to and including July, 1878. Prior to August, 74, the records were very incomplete. Physicians not being required to make returns We have no records prior to 1872.

This statement would appear at first sight to indicate an extraordinary mortality for this disease in the District of Columbia; and such would be the fact, were they all cases of *croupous* pneumonia. It includes, however, *all* the forms of pneumonia—catarrhal pneumonia especially of old persons and young children, of invalids and consumptives, and not unlikely many cases of capillary bronchitis and pulmonary collapse. The statistical value therefore, in a mortuary sense, is lost, but the relative value as to frequency of occurrence at certain seasons of the year remains but little impaired.

Thus during the four months from January to April, inclusive, there are 1127 deaths to 788 for the remaining eight months, and for the six months from December to May, inclusive, there are 1471 cases against but 444 for the other six months, showing it to be a disease of winter and spring months.

## Treatment of Yellow Fever.

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### LECTURE IV.

GENTLEMEN:

In the preceding lectures, we have brought to your notice various subjects connected with the natural history of yellow fever, and we have detailed many cases illustrating, by actual observations, the symptoms, pathological chemistry, microscopy, and pathological anatomy of this disease,* and we desire to conclude the clinical lectures on this subject by some practical observations on the *principles of treatment.*

#### OUTLINE OF PRINCIPLES OF TREATMENT OF YELLOW FEVER.

1. Although yellow fever is a self-limited disease, which in uncomplicated cases runs a definite course, at the same time it

* The details of these cases have been necessarily omitted from the reports of these lectures, for want of space.

can be if not arrested, at least modified and controlled and brought to a favorable issue, by judicious treatment, careful nursing, and the proper use in certain stages of certain drugs.

2. The treatment should be instituted at the earliest possible moment after the onset of the disease. If the stomach is loaded with food, it should be immediately relieved by the administration of an efficient emetic; and to accomplish this indication, I have found a drachm of pulverized ipecac, mixed with one pint of warm water, and administered in small quantities at regular intervals, the mildest and best emetic, promoting free sweating in the first few hours of the disease.

The next step should be to unload the bowels by an efficient purgative. To accomplish this end, it has been my custom to administer in the first twelve hours of the fever, to an adult, ten grains each of calomel and quinine, and to follow with from one fluid ounce to a fluid ounce and a half of castor oil in three or four hours. In most cases, by these means the bowels were relieved of large quantities of dark, foul, stinking fecal matters. In no instance have I ever regretted the early and prompt administration of efficient purgatives in yellow fever; on the contrary, whenever from any cause the purgative was rejected and failed to act, the subsequent progress of the disease was unfavorable and unsatisfactory.

3. The poison of yellow fever, as well as the deleterious products resulting from the chemical changes which it excites, are eliminated mainly by the skin and kidneys. Black vomit is the *result* of this action of the yellow fever poison upon the blood, and certain organs. It should neither be regarded as the active cause nor be treated as *the disease*. Black vomit must be viewed as a *result* and not as the *cause* of diseased action. Therefore the functions of the skin and kidneys should be promoted by suitable means during the progress of the disease, and at the same time due regard must be paid to the irritated and irritable condition of the gastric mucous membrane. During the early stages the physician should employ those measures which are best adapted to equalize the circulation and promote the regular and free exercise of the functions of the skin and kidneys. Stimulating diuretics should as a general rule be avoided, as they tend to increase the irritation and congestion of the kidneys.

Such a stimulating diuretic as the oil of turpentine, whether used externally or administered internally, may be productive of permanent injury in increasing the congestion and promoting the destructive changes in the kidneys. For a similar reason blisters should be employed with great caution in this disease.

A favorable impression may be made upon the circulation, and upon the skin, by the free use of the hot mustard foot bath. The action of the skin and kidneys may be promoted by draughts of lemonade, and of warm decoctions of mild diuretics, as orange leaf and sage tea, and water charged with carbonic acid.

The thirst due to the chemical changes of the blood, and to the elevated temperature should be relieved at stated and short intervals by moderate draughts of cold water, and by fragments of ice in the mouth.

I have used during the epidemic yellow fever of 1878, with much benefit the natural alkaline gaseous Apollinaris water of the Apollinaris Spring, near Neuenahr. Its pleasant taste; its richness in pure carbonic acid; its slight alkaline properties and its gentle diuretic effects, render it peculiarly grateful to the yellow fever patient. A careful examination of the reports of Professor Virchow, Dr. Oscar Liebreich, professor of chemistry at the Berlin University, Dr. Carl Bischof, of Wiesbaden, Professor G. Bischof, of Bonn, Dr. Frederick Mohr, of Bonn, Professor A. W. Hofman, Vice President of the Chemical Society of Germany, Professor Aug. Kekule, Privy Councillor of State and Director of the Chemical Institute of the University of Bonn, and of Professor W. Odling, professor of chemistry at the University of Oxford, has established the belief, that by reason of the skill and pains employed at the spring to present and maintain the water in its natural condition, the bottled Apollinaris water, fulfills the condition of a natural mineral water, which retains its charge of carbonic acid, and is actually presented to the public with its different constituents in all essential respects for table use and for therapeutic application unaltered. As a mean of eight analysis made by Professor Carl Bischof, in the year 1877, the total amount of saline matter was found to be 22 parts in 10,000 parts of the water, 16 of these 22 parts being constituted of alkaline carbonates, the carbonate of soda amounting to over 9½ parts, the carbonate of magnesia to over 3¾ parts, and the carbonate of lime to over 2½ parts.

According to Dr. Friedrich Mohr, the analysis per 10,000 parts of Apollinaris water yielded: carbonate of soda 9.431, chloride of sodium 3.5616, sulphate of soda 2.0949, carbonate of lime 2.5004, carbonate of magnesia 4.0983, oxydul of iron 0.0380, silicates, etc., 0.1850; total saline ingredients 21.9092.

By a series of analyses made at different times, the water of the springs is shown to belong to the class of so-called acidulous-alkaline waters; acidulous by reason of the large excess of carbonic acid gas with which it is charged, and alkaline by reason of the proportions of the carbonates of magnesia and lime, and more especially of soda, which form its principal saline constituents, and together with the excess of carbonic acid, give to the water its characteristic taste and properties.

I was led by the results of numerous trials of the Apollinaris water as a drink in the active febrile stage of yellow fever, to refer its beneficial effects to the carbonic acid, as well as to the alkaline salts.

It is well known that carbonic acid gas applied to the eye, relieves the pain and photophobia of scrofulous opthalmia, and that injected up the vagina, it eases the pain of ulceration of

the os uteri and of cancer and neuralgia of the uterus, and according to Sir J. Simpson, the inhalation of this gas is serviceable in chronic bronchitis, asthma and irritable cough.

Carbonic acid water has long been employed in painful and irritable conditions of the stomach, it eases pain and checks vomiting. These are precisely the effects which we desire to accomplish in many cases of yellow fever attended with great irritability of the stomach. Carbonic acid water is an excellent addition to milk, which will then be generally retained though previously rejected. Experience has proven that obstinate vomiting can be alleviated by liquids containing carbonic acid, provided there is no serious organic disease of the stomach. They slightly reduce the temperature, and the frequency of the pulse, and during their use the urine often contains an abnormal quantity of oxalic acid, a product of imperfect combustion. These effects must also be due to the property which carbonic acid has of diminishing the alkalinity of the animal juices, for the blood can be rendered acid by saturation with this gas, after withdrawal from the body. It is also possible that the transitory fall of temperature which it produces depends on a reflex stimulus imparted to the nervous centres, similar to that produced by irritation applied to the skin. Its effect on the pulse and temperature persists as long as the urine, a product of tissue changes which are controlled by carbonic acid, contains an abnormal amount of this gas; hence it increases for from half to two hours after tolerable strong doses of the latter, and can possibly be prolonged by its continued administration in small doses (Kerner, Binz).

The small proportion of alkaline carbonates existing in the Apollinaris water, tended at once to neutralize an excess of acid in the stomach and at the same time to promote a free and continuous excretion of urine, and thus tended to relieve the congestion of the kidneys and prevent the accumulation of desquamated cells, oil and granular matter in the tubuli uriniferi.

In the treatment of yellow fever, I administered the Apollinaris water in the following manner:

The cork of the bottle was perforated by the tube provided with a stop-cock now employed so extensively for the discharge of champagne in limited quantities. Fragments of ice were placed in the sick cup, and the Apollinaris water allowed to flow upon them by turning the cock, and the cool water was immediately administered to the patient. And here I must state a rule which was invariably followed during the different stages of yellow fever, namely, the retention at all times of the recumbent position by the patient, even when drinking or taking nourishment. This precaution is preëminently necessary in yellow fever, on account of the action of the poison on the ganglia and muscular structures of the heart, and the acute fatty degeneration which this organ undergoes in this disease.

4. *The diet should be light but nutritious*, and administered in small quantities and with great caution during the first four or

five days of the disease. Without doubt the stomach is often irritated, and even black vomit induced, by the injudicious administration of food during the active stages of yellow fever. Aside from the fact that in the hot stage of all fevers, the secretions of the stomach are so altered and its powers are so impaired that it is incapable of properly digesting and assimilating food, in yellow fever there is an especial irritation and enfeeblement of this organ; and withal in many cases there is a morbid appetite and craving for food. The sensation of hunger on the part of the patient in this disease should not be gratified, except in the most cautious manner, and by the lightest, blandest and most easily assimilated forms of nourishment. Barley water, beef tea, chicken tea, corn and rice gruel, milk charged with carbonic acid gas, and milk and lime water, are the best forms of nourishment, and should be continued at regular intervals throughout the active stages of the disease. In many cases, I confined the patients to simple barley water during the active stages. The barley water was prepared thus: four ounces of barley were boiled in a pint and a half of water down to one pint. Solid food and even bread should be avoided.

Alcoholic stimulants should be used with caution, and their effects noted. They have proved beneficial in certain cases attended with great prostration, in the stage of febrile excitement. Champagne, when pure, is perhaps one of the best forms of alcoholic stimulants, from the presence of carbonic acid with which it is charged. The champagne should be delivered from the bottle in small quantities by means of the tube and stop-cock, and should be poured upon fragments of ice in the sick cup, and thus administered to the patient at regular intervals. When champagne of good quality cannot be obtained (the dry champagne should always be used in preference to the sweet), an excellent substitute may be prepared by diluting good brandy or whisky with water charged with carbonic acid gas.

It must be admitted that many cases of yellow-fever, may be successfully treated without stimulants. In some cases milk-punch has proved beneficial, but this combination of alcohol and milk should be given with caution, and in small quantities at regular intervals.

### PURGATIVES.

5. Efficient but gentle purgation in the *early part* of the *first stage* of active febrile excitement, may prove beneficial in relieving in a measure the congestion of the kidney and liver and gastro-intestinal mucous membrane, and in removing foul and offending fœcal matters from the bowels. If mercurials are employed, they should be used in the early part of the first stage, not later than the second day of the disease. For an adult from eight to twelve grains of calomel or blue-mass will be sufficient. Purgatives should not be administered in the

second stage of depression. As a general rule, I commenced the treatment of the disease, with a combination of quinine and calomel; ten grains of each being administered at once to an adult. The effects of the quinine thus administered will be considered hereafter; with reference to the calomel, I have preferred it as a purgative on account of the following well known facts:

(a.) Calomel is insoluble in the hydrochloric acid of the gastric juice, but if brought in contact with a solution of albumen for a little while at the temperature of the body, a portion of the metal always becomes dissolved in the latter; and in the same way the urine always contains mercury after calomel has been repeatedly dusted in the eye.

All the salts of mercury which are absorbed into the system are converted by the chloride of sodium, and the carbonic acid into soluble combinations.

(b.) In adults doses of from eight to ten grains of calomel excite active peristaltic movements of the bowels, cause the expulsion of their contents, and often produce profuse diarrhœa. In yellow fever and in malarial fever, especially in the first stage of the fever, calomel rarely produces excessive or troublesome purgation.

(c.) According to recent researches the quantity of bile, secreted by the liver is not absolutely increased by the action of calomel, but on the contrary is somewhat diminished by its prolonged administration. The dark green color of the abundant motions which it produces is due to the rapid descent of the bile from the upper part of the intestinal canal. Calomel, on the other hand, stimulates the functions of the pancreas, large quantities of leucine, tyrosin, and indol, being found in the fæces after its use, whereas they are absent in diarrhœa caused by other drastic purgatives. Calomel also powerfully excites the secretion of the intestinal glands. If Schiff's researches, be accepted, which show that the liver not only *secretes* bile, but also *excretes* that which has already been secreted and absorbed in the intestine, it may be possible to explain the fact, that less bile enters the duodenum after diarrhœa induced by calomel; and this diminution will also be explicable by the necessarily more rapid removal of the chyme, for with impaired nutrition less bile is secreted: in this sense therefore, calomel relieves the animal juices of any excess of biliary principles which they may contain, and hence it still may be called a cholagogue.

(d). The experience of generations strongly protests against the results of experiments on dogs and other lower animals, and supports the conviction that in *some diseases mercury does increase the bile.* It is now not difficult to conceive that in a given disease mercury may set aside some condition hindering the formation of bile, and thus act as a cholagogue, though possibly in health it may check the secretion.

But we have satisfactory evidence to show that in man the green stools induced by calomel contain bile.

Simon performed an analysis upon the fifth stool after the administration of a large dose of calomel: the passage was fluid, perfectly green, had no fæcal odor, exhibited a mild acid reaction, and showed under the microscope a great number of mucous corpuscles and epithelium cells. Ether extracted from the solid residue (obtained by evaporation) a considerable amount of fat, which had an acid reaction, contained cholesterine and was colored by biliverdin. All the other substances which were separated from the stool by water and alcohol, were more or less colored by bile-pigment; bilin, bilifellinic acid, and biliverdin were found in large quantity.

Michéa (*Lancet*, 1849, vol. i, p. 15) examined chemically the fæces under four different conditions. First—the spontaneous dejections of six healthy individuals: no bile was detected. Second—green stools of three persons suffering from gastro-intestinal derangement: bile pigment was found in one case only, and in this could not be detected after persistent vomiting had ceased. Third—calomel having been given to eight healthy persons, five men and three women, bile was readily demonstrated in the green passages produced in all of the subjects. Fourth—saline and resinous purgatives were given to five persons, but no bile could be detected in the liquid stools.

Professor H. C. Wood, Jr., M.D., in his valuable "*Treatise on Therapeutics*," Philadelphia, 1877, p. 435, gives the following summary of our knowledge with reference to the action of calomel on the biliary secretion: "To the evidence brought forward in favor of the proposition that calomel given to healthy men causes an increased escape of bile from the alimentary canal, may be added the conclusive fact that in some persons, whose idiosyncrasies render them very susceptible to the action of calomel, it produces not merely purging, but also vomiting of bile, which is scarcely at all altered.

"From the facts which have just been passed in review, the conclusion seems inevitable that mercurial purgatives given to healthy persons cause the escape of large quantities of bile from the alimentary canal. As is well known, when from any cause bile does not pass into the duodenum, the stools become very pale, of a peculiar potter's-clay, or even white color. Very frequently under these circumstances, which may co-exist either with diarrhœa or with constipation, mercurials will modify the color of the passages and alleviate or cure any symptoms present. In many cases the mercurials are, of course, powerless to effect the desired result; but this depends upon the cause being organic, or of some other nature not to be overcome by a mere stimulant to secretion.

"As mercurials in health increase the flow of bile from the intestine, and as they will sometimes reëstablish it in diseases when the secretion has altogether ceased or has been materially diminished, the conclusion seems to me inevitable that mercu-

rials have the power of directly or indirectly increasing the secretion of bile. The only objection, if any, found to be urged against this deduction, is founded upon the idea that the drug simply increases peristalsis in such a way as to cause the bile naturally in the duodenum to be swept out instead of being absorbed. The answer to this is embraced in the following facts: mercurials restore the color of the passages when pale from arrested secretion, often without producing diarrhœa; other even more active purgatives fail to induce the same bilious passages. When diarrhœa exists with clayey stools, the change in the color of the passages caused by a mercurial may coincide with a not increased or even a lessened amount of liquidity; diarrhœa ordinarily does not cause bile to appear in the passages."

I have, therefore, uniformly commenced the treatment of yellow fever with a purgative dose of calomel, varied in amount according to the age of the patient, with the design of cleaning out all fæcal matter from the alimentary canal, relieving the portal and general circulations, influencing the liver, the organ most uniformly affected in yellow fever, increasing the flow of bile, and indirectly reducing the temperature. Calomel thus administered in the very onset of the disease, tends to render the subsequent course of the disease milder, and in relieving the congestion of the gastro intestinal membrane, liver and portal circulation, to prevent black vomit and urinary suppression.

6. In many cases the preceding measures, with careful attention *to good ventilation*, accompanied by absolute rest in bed, and the careful and continuous attention of experienced nurses will be all that is required to secure the best results. It is important however that these propositions should be illustrated by the actual detail of cases. I select the following from the records which I preserved in my private practice during the epidemic of 1878, in New Orleans. It is worthy of note that the *first five cases* of the hundred here given occurred in the beginning of the epidemic and in the *very centre*, the *original focus* of the *pestilence.*

(Cases omitted, as the details would occupy more space than is at present available.)

7. OBSERVATIONS ON THE VALUE OF QUININE IN THE TREATMENT AND PREVENTION OF YELLOW FEVER, WITH OBSERVATIONS UPON OTHER PROPHYLACTICS.

Quinine may prove beneficial in the *earliest stages* of the disease by its effects upon the nervous system and by its power of diminishing the temperature and equalizing the circulation; but this drug has no such curative effects in yellow fever as it has in paroxysmal malarial fever. Yellow fever will run a definite course and pass through a definite series of changes

whether quinine be administered or withheld. The great fact has been forced upon my attention, not merely by the observation of cases, by also but my personal experience during my recent protracted, painful and dangerous (all but fatal) illness, that the actions of the yellow fever and malarial (marsh paludal, paroxysmal) poisons, are often closely related, the one preceding, the other superceding, and then the first following. Thus after an attack of malignant fever, attended with jaundice, and a large carbuncle at the back of the head, strangury, and rectal fissure, I suffered with a remittent fever of 60 days' duration, which necessitated for its relief, the administration of 600 (six hundred) grains of quinine. In a large number of cases of yellow fever during the epidemic of 1878 in New Orleans, I observed the association of the two diseases, or rather the prevalence of malarial paroxysmal fever before and after the yellow fever had performed its known effects.

In the year 1873, I called the attention of the American Medical profession to the use of quinine as a prophylactic in yellow fever; having accomplished a similar work in 1860, with reference to the use of the same agent in the prevention of malarial or paroxysmal fevers.

Writing in 1873 (at my private expense I printed and circulated gratuitously, to the profession chiefly in the Southern States, a large edition of my *Observations on Yellow Fever*), I used the following language:

"The power of quinine not only to arrest, but also to ward off paroxysmal malarial fever is undoubted; and it has been used extensively, not only in the *treatment of yellow fever* (as by the physicians of New Orleans, and Daniel Blair, of British Guiana, from 1839 to the present time) but more recently as a prophylatic.

"Dr. Newkirk, who was at Assuncion during the recent severe epidemic of yellow fever, assured Dr. Wm. Nathaniel Hiron, of Buenos Ayres, that the mortality was small, and that quinine was very generally and extensively used; and he expressed his belief that quinine was prophylatic, and that its continuous use in a healthy person during an epidemic caused any disease that showed itself to be mild and tractable.

"Dr. Hiron, in his account of the recent severe epidemic of yellow fever in which Buenos Ayres, with a population not larger than that of New Orleans, lost, according to the most accurate estimates, near twenty thousand of her citizens, records the additional fact, illustrating the prophylactic properties of quinine, that of eleven *practicantes*, (dressers) of the Hospital de Hombres, eight took quinine in doses of three grains daily. All of these had fever in a benign form. Three took no quinine; three had the fever very severely, and one died.

While the facts relating to this important subject are too few to warrant any decided conclusion as to the propriety and necessity of using quinine as a prophylactic by those exposed to the

yellow fever atmosphere, at the same time there are facts that indicate that quinine acts not so much as an "antidote" to the poison, but as an antidote to the *effects* of the poison in the system by preserving the integrity of the blood, regulating and promoting excretion, equalizing the circulation and fortifying the nervous system against the action of the poison. According to Binz, quinine has the power of arresting putrefaction and fermentation, and is an active poison for all low organisms, animal and vegetable, and Dr. Grace Calvert has confirmed the observations of Binz, and announced the power of quinine to prevent the development of fungi.*

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* Sir John Pringle, in his "Experiments upon Septic and Antiseptic Substances, with remarks relating to their use in the Theory of Medicine," read before the Royal Society in 1750, after detailing various experiments illustrating the power of Peruvian bark to arrest putrefaction, makes the following practical application. "Now, since the bark parts with so much virtue in water, is it not reasonable to suppose that it may yield still more in the body, when opened by the *saliva* and the bile, and therefore in some measure it operates by its antiseptic virtue? From this principle we may perhaps account for its success in gangrene, and in the low state of malignant fevers when the humors are apparently corrupted. And as to intermitting fevers, in which the bark is most specific, were we to judge of their nature from circumstances attending them, in climates and in seasons most liable to the distemper, we would assign putrefaction as one of the principle causes. They are the great epidemic of marshy countries, and prevail most after hot summers, with a close and moist state of the air. They begin about the end of summer, and continue throughout autumn, being at the worst when the atmosphere is most loaded with the *effluvia* of stagnating water, rendered more putrid by vegetables and animals dying and rotting in it. At such times all meats are quickly tainted, and dysenteries, with other putrid disorders, coincide with these fevers. The heat disposes the blood to acrimony, the putrid *effluvia* as a ferment, and the fogs and dews, so common in such situations, stopping perspiration, shut up the corrupted humors and bring on a fever."

Dr. Pringle reproduced his views with reference to the antiseptic properties of cinchona bark in decoction and powder, in his *Observations on Diseases of the Army*, London, 1765.

Surgeon David McBride published, in 1765, his five Experimental Essays on the Fermentation of the Alimentary Mixtures, Fixed Air, Antiseptics, Scurvy, and the Dissolvent Power of Quicklime, and repeated and extended the experiments of Pringle, and confirmed his conclusions that certain combinations, as the mineral acids, gums and Peruvian bark, possess powerful antiseptic virtues, *resisting* and correcting putrefaction.

This subject has been more recently studied by other observers, as Hallier, Pavisé, Mayer, Polli Herbest, and more especially by Dr. C. Binz, Professor of Pharmacology in the University of Bonn. The experiments of these authorities have demonstrated that quinia in proportion of one part to three hundred will preserve for a long time flesh, meal, milk, butter, albumen, urine, etc., and will check very markedly the alcoholic fermentation in honey or in syrup; that the salts of quinia are protoplasmic poisons, arresting amœboid and the allied movements of the white corpuscles; even weak solutions are highly poisonous to protozoa and infusoria, more so even than salts of strychnia or morphia. Small quantities destroy septic germs, and arrest putrefaction more thoroughly than most antiseptics, including even arsenic and creosote; and with the exception of strychnia, quinia moreover hinders alcoholic and butyric fermentations more than other bitters. Professor C. Binz has demonstrated that this antiseptic action is due to a poisonous influence exerted by the quinia upon the fungi which are the immediate cause of the changes. The larger infusoria, as Paramecia and Colpoda, are killed by a solution of quinia of the strength of one in eight hundred immediately, of one in the thousand after some minutes, of one in twenty thousand after some hours. Upon the ordinary mould Penicillium, upon vibrios and bacteria, as well as upon the higher infusoria, quinia acts with a similar fatality. In the case of the vibrios and bacteria, a decidedly stronger solution than the one mentioned is required to quiet movements. Solutions of albumen are converted into peptones, if shaken up in an atmosphere of nascent oxygen, but according to Rossbach, this change is prevented if quinia is present. Even in relatively small quantities it prevents the putrefaction of nitrogenous substances, as well as several simpler fermentation processes. Other *amorphous* ferments, such as ptyalin and pepsin, have their properties very slightly, or not at all, arrested by quinia, and there are small protoplasmic organisms on which it has no poisonous effect whatever, whereas it reacts on others with unexpected vigor! The poisonous action of many putrid fluids upon warm-blooded animals may be neutralized either completely or as far as certain symptoms are concerned, by the simultaneous administration of quinia. On account of its power of arresting or preventing putrefactive fermentation by killing the microscopic organisms which produce such putrefactive changes, Professor Binz has recommended it in the so-called *septic diseases*.

These facts have been applied to the explanation of the effects of quinine upon the process of inflammation. Thus according to Conheim's views, pus being mainly a collection of white blood-globules which have passed through the walls of the blood-vessels, the alkaloid arrests, or at all events diminishes, the formation of pus during the course of inflammation.*

The well-established effect of quinine in producing a *decrement of temperature in fever*† has been referred to its power of

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* According to Binz, owing to the energy with which it paralyses certain kinds of protoplasm, quinia diminishes the absolute number of white blood-corpuscles in the body. The lymphatic glands become small and are found on section to be abnormally dry, while splenic enlargements, due to hyperplasia of the lymphatic follicles, and to the increased tissue change within the organ by which it is accompanied, are reduced or prevented. The escape of white blood-corpuscles from the vessels, and the suppuration which ensues, can be distinctly limited in animals by quinia. Professor Binz announced (Archiv. für Mikroscop. Anatomié, iii., 1867) the fact that quinia added to human blood, in the proportion of one part to four thousand, immediately checks and in a short time arrests the amœboid movements of the blood cells. This observation has been confirmed by Scharrenbwich, Kerner, and Geltowsky. In order to determine whether quinia acts in the living organism as on the stage of the microscope, Professor Binz experimented according to the method of Conheim. Thus when the mesentery of curarized frogs to which quinia had been given was exposed upon the stage of the microscope no accumulation of white cells in the small vessels, or passage of them out into the tissues occurred upon irritation; or if after a time these phenomena commenced, they were at once checked by a small hypodermic injection of the alkaloid. When the inflammatory process had already commenced in a Conheim frog an injection of quinia would cause the wandering out of the corpuscles to cease, and would bring about a gradual change of the white cells from the choked up vessels. Professor Binz has further found that in the blood of unpoisoned animals, the white cells are far more abundant than in that of those poisoned by quinia, and concludes that quinia acts destructively upon the white blood-corpuscles, in the same way as when they are out of the body. Dr. George R. Culter has experimentally confirmed the effects of quinia in preventing the extrusion of white cells in the frog's mesentery; and A. Martin has not only done this, but has also found that the action of the drug is apparent in the centre of parenchymatous organs, such as the liver.

The limitation by quinia of the escape of white blood-corpuscles from the vessels, and the suppuration which ensues, appears in the main to be independent of the condition of arterial pressure, and is most probably due to a lowering of the affinity of the corpuscles for the oxygen of the hæmoglobin, this oxygen being the stimulus which excites the independent movements by which emigration from the veins and capillaries is partly effected. Fresh vegetable juices containing protoplasm, and also healthy pus, both of which ordinarily give the reaction of nascent oxygen with tincture of guiacum or indigo, lose this property when mixed with relatively weak solutions of quinia. The reason of this is that the quinia prevents the protoplasm from absorbing oxygen from the atmosphere, and so from undergoing the special alteration to which the above reaction is due. Phosphorescent infusoria, or those which are continually undergoing powerful oxidation, completely lose their phosphorescence on the addition of minute quantities of quinia.—*Binz.*

†The testimony as to the power of quinia to reduce animal temperature is somewhat contradictory. Thus according to Binz the fall of temperature which quinia so frequently produces in fever (0.5° to 4.0° and more, Centigrade) is independent of the heart, and also of those portions of the nervous system which take origin in the brain, and pass downward through the spinal cord, for it still takes place after the conical portion of the latter has been completely divided. Nor according to Jürgensen and Lewitzky, does it appear to depend on an increased emission of heat from the skin. Among other causes it is probable that quinia exerts some inhibitory effect over the functional activity of the protoplasmatic cells of the heat producing organs. Even the normal cells become slightly depressed by its action, especially when they are producing an unusual amount of heat under the stimulus of pyretic substances, and their infective poisons (whether they be organized or merely in solution) which are capable of self-multiplication in the body after a more or less regular period of incubation and of acting as irritants to the cells, are either rendered by quinia incapable of further development, as in malaria, or have their energy paralyzed, as happens to some extent in typhoid fever.—Binz. On the contrary Dr. G. Kerner and Dr. Jürgensen, have noticed that full doses of quinia appear in a healthy man not to effect sensibly the temperature, but to prevent that rise which normally occurs from exercise. The numerous experiments of Dr. C. Leibermeister, have shown that quinia has no constant action on the bodily heat in health, but he claims for it a decided antipyretic action when given in continued fevers, or even in phthisis pulmonalis. Dr. Liebermeister gives as a rule, ½ to 2½ grammes of the sulphate or muriate of quinine, and regards it as essential that *the whole of the dose be given in the course of half an hour, or at the outside, in the course of a whole hour.* If the dose were to be distributed over a length of time the action would be perceptibly less; even a much larger dose, but given in the course of half a day or a whole day, has often scarcely any marked influence on the temperature. According to

destroying the ozonizing power of certain substances; and as the red corpuscles have this power, quinine in the blood is supposed to diminish the oxydation of tissue and thus to lessen the production of heat.

Thus Ranke* and Keener found that the tissue changes were diminished under the action of large doses of quinine. Zuntz has recorded the observation that quinine in ten grain doses lessens the daily excretion of urea by one-third or more; and Unruh has found the same to occur when quinine was administered in fevers. Harley added quinine to blood, and found that it took up less oxygen and gave off less carbonic acid than blood which had not been thus treated. Zuntz and Schute have employed the changes in the alkalinity of the blood for the determination of the same fact. Thus, if fresh blood be drawn, a development of acid begins in it, and continues at first rapidly, then more slowly, till putrefaction sets in; and as this acidification depends on oxydation, the diminished alkalinity of the blood thereby produced furnishes a test of the rapidity with which the oxydation proceeds, and it has been determined by the experiments of Zuntz, Scharaenbroich and Schute that quinine, bebeerine, cinchonine and picrate of sodium lessen, in different degrees, the production of acid, and consequently prevent the oxydation of the blood.†

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the same author, in one hundred and seventy-eight observations in *typhoid fever*, twenty grains of the quinine having been given during the night, the morning temperature was lower than that of the previous evening in the average 1.63° C.; on one hundred and seventy-six different occasions a scruple of quinine was given during the day; sixty nine times the temperature was lower in the evening than in the morning; ten times it was the same as in the morning, and ninety-seven times it was higher than in the morning. Leibermeister asserts that he has given some ten thousand doses of quinine as an antipyretic, and has almost unbounded confidence in its power of lessening fever heat. A committee appointed by the London Chemical Society in 1870, after experimenting with the drug in about fifty cases of various diseases, assert that the antipyretic action of large doses was very decided, appearing within from one to two hours after the exhibition of the drug, and lasting from a few to many hours. Dr. Sydney Ringer concludes from the experiments performed by himself and Mr. Gill, that quinia will reduce the temperature in health, but to effect this in any appreciable degree, large doses, to the extent of 20 grains, must be given.

* Ranke was the first to notice that quinia produced a great decrease in the elimination of uric acid. The experiments of Dr. G. Kerner, have shown that when about nine grains of quinia were taken in decided doses during the day, the urea was decreased not quite one-eighth, the uric acid to a little less than one-half, the kreatine was slightly increased, and the nitrogenous material decreased about one-ninth. When a very large dose, 38 grains, was taken in the morning, the urea and kreatine were each decreased about one-fourth, and also the collective nitrogenous material; the phosphoric acid was lessened about one-fifth, and the uric acid about four-fifths. Zuntz found that forty-five grains of quinine reduced his elimination of urea nearly forty per cent.

† The addition of quinia to blood which has been recently drawn, not only diminishes the physiological production of acid which occurs immediately after its removal from the body, but also its power of transferring active oxygen to oxidisable bodies. The latter effect also takes place with pure hæmoglobin, without its being possible to detect any decomposition of the latter spectroscopically during the presence of the quinia. On the contrary, when blood which contains quinia is heated, the lines which indicate oxygen disappear at a higher temperature than the same lines in pure blood used for comparison—Rossbach.

The *penicillium* fungus, when mixed with hæmoglobin outside the body, withdraws oxygen from it, and this process is arrested by quinia.—(Preyer.) All things considered, and taking into consideration the alterations in size which the red blood corpuscles undergo under its influence, it seems probable that while the quinia renders certain cells within the human organism still less fitted than before for the absorption of oxygen, it binds that element more firmly to the hæmoglobin.—(Binz).

The experiments of Binz are especially important, in their bearing upon the question of the direct action of quinine upon the chemical changes of the blood, or of its indirect action through the nervous system, which show that when putrefying liquids are injected into the circulation, the temperature of the body rises; but if the fluids be previously mixed with quinine, whereby the putrefactive processes are arrested or destroyed, the rise of temperature is either entirely arrested or considerably diminished. Such experiments not only throw light upon the therapeutic action of such alkaloids as quinine, but they also illustrate, as it were, the very nature of the processes of those diseases, the effects of which they modify or counteract, by the peculiar chain of chemical actions which they induce in the blood. "Observations upon the treatment of yellow fever, by Joseph Jones, M. D.," American Practitioner, September, 1873.

The preceding facts, as well as an extended clinical experience in civil, military and hospital practice, which established in me an abiding faith in the powers of quinine to reduce the frequency of the pulse and to diminish and arrest the heat of fever, have inclined me favorably to the use of the alkaloid as a prophylactic and as an antipyretic in yellow fever.

To what extent quinine was used as a prophylactic in the Mississippi Valley during the epidemic yellow fever of 1878, I am unable to say, but some of the severest and most fatal cases of yellow fever in my practice occurred in those who were daily in the habit of taking small doses of the sulphate of quinine to ward off the yellow fever. In my own household, there were eight persons, adults and children, liable to take yellow fever, and three who had had the disease in former years; the latter escaped, every one of the former had the disease in a well marked and in some cases severe and dangerous form, but all recovered. Not one of these eight cases, myself included, took any prophylatic or exercised any precautionary measures.

My colleague, Professor John Barnwell Elliott, recommended the internal use of the *sulphite* of *sodium*, the dose being about ten grains for an adult, three times a day. According to some accounts the disease was rendered milder by the use of the sulphite of sodium, but I have no reliable facts or statistics to sustain this proposition. Dr. Joseph T. Scott has informed me that he used with considerable success as a prophylactic measure, a plan of treatment, or rather preparatory training, which consisted in the free use of lemon juice (lemonade), and small doses of Fowler's solution of arsenite of sodium, and of quinine and chlorate of potassa daily.

These measures did not prevent the disease as cases occurred in my practice who were under this treatment. It was claimed,

however, by Dr. Scott, that these measures prevented the disease in many cases, and in others when it appeared modified, its course rendering it comparatively mild. It is to be hoped that Drs. Elliott and Scott, and all others who have experimented with prophylatics, will communicate the results to the profession. I shall be pleased to be the medium of such communications.

However quinine may appear theoretically to be demanded in the treatment of yellow fever, we can never lose sight of the fact that it has often proved of no perceptible benefit in some cases. It is also worthy of note that we are often absolutely prevented from administering this or any other remedy by the mouth on account of the irritable condition of the stomach. In such cases we are restricted to three modes: absorption by the surface, subcutaneous injection, and absorption by the rectum and large intestines. To what extent and with what results the second method has been employed, I cannot say, but with reference to the first and third, it can be said that they were extensively employed. I preferred these methods, in that they allowed the stomach to remain quiet. I employed quinine by liniment externally, using it in this manner in about two hundred cases, and in no instance did I see any injurious effects. The patients also expressed great relief of the pain in the back and limbs from the friction with the quinine liniment, which was generally composed of from one to two drachms of the sulphate of quinia dissolved in three fluid ounces each of soap liniment and olive oil. This liniment was well rubbed into the back and extremeties every three or four hours, and aside from the direct effects of the quinine, I found that the olive oil had a marked effect in reducing the temperature and promoting moisture or sweating in the skin.

Generally I employed the sulphate of quinia internally and externally, but in some cases I used the *bromide of quinia* with satisfactory results.

### 8. VERATRUM AND GELSEMIUM.

We possess, for the the treatment of fevers, valuable antipyretics and arterial sedatives, in the American hellebore root (veratri viridis radix), and in the tincture of the root of the Carolina jessamine (gelsemium sempervirens). The latter agent is popular with some physicians, on account of its power to control nervous irritability in fever. It is well known that veratrum is a reliable antipyretic if used in sufficient doses, and that it often effects a complete intermission in cases where it had not been obtained by quinine.

The root stock of veratrum viride contains two alkaloids, *jervia* and veratroidia; and Mr. Charles Bullock, who in 1867, was the first distinctly to separate these alkaloids, believed

that they were distinct from all others; but Mr. Charles T. Mitchell, in 1874, proved that the viridia of Bullock is chemically identical with the jervia of veratrum album.

Professor H. C. Wood, Jr., M.D., from an elaborate series of experiments (Philadelphia Medical Times, vol. 10; also Treatise on Therapeutics, 1877, pp. 150–156), concludes that veratrum viride is a powerful spinal and arterial depressant, exerting little or no direct influence upon the cerebral centres. In full therapeutic doses it lowers the pulse-rate both by a direct action on the muscle (jervia) and by stimulating the inhibitory nerves (veratroidia); it diminishes the force of the heart-beat by a direct influence on the cardiac muscle (jervia), and produces a general vaso-motor paralysis (jervia) more or less complete according to the size of the dose. Under its action the functional activity of the skin is greatly increased; but as this is a necessary result of the profound arterial depression, there is no reason to believe that the drug has any specific influence upon the perspiratory glands. In a similar manner the excretion of bile, is often indirectly increased by veratrum viride, through the severe vomiting which it induces.

Veratrum viride undoubtedly lowers animal temperature very decidedly, but whether directly or indirectly has not been determined. Professor H. C. Wood has frequently seen it reduce the bodily heat, and M. Linou states that it does so, but not so certainly as it lowers the pulse. Oulmont asserts, as the results of his experiments, that in animals from half an hour to two hours after the administration of such doses as would produce violent symptoms without killing, the temperature fell 2°, 3°, or even 5° C., and remained at this point for twenty-four hours.

It is evident from the peeceding facts, that with our present knowledge of the physiological action of veratrum viride, there are at least three natural indications for its use, namely, to reduce spinal action, to reduce cardiac and arterial action, and to depress the temperature in fever.

It is well known that this medicine has been used with beneficial results, in fevers, pneumonia, inflammations, neuralgia and cardiac troubles. In the inflammations in pneumonia, in typhoid fever, and in the early stages of yellow fever attended with cardiac and arterial action and elevated temperature, the ability of veratrum viride to diminish temperature, to increase the secretions, to reduce the arterial tension, and slow the heart are of great value. When employed in the treatment of yellow fever, its use should be limited to the first stage of active cardiac and arterial excitement and elevated temperature. It is but just to suppose that the most destructive lesions occur in this stage, and that as a general rule these destructive and fatal effects will be in proportion to the activity of the circulation, the spinal excitation and the elevation of temperature.

Administered at the outset of the disease during the first 24, 48 or 72 hours, according to the symptoms of the individual cases, veratrum viride has accomplished good in my hands. The mode of administration has been to give from two to four drops of the tinctura veratri viridis U. S. P. (℥viij. to Oj.), or of Norwood's tincture (saturated tincture), to an adult, in orange-leaf tea, every two or four hours according to the urgency of the symptoms. The direction was invariably given to stop the veratrum viride if any decided nausea appeared.

The use of the veratrum viride was rigidly confined to the first period (stage of active febrile) excitement in yellow fever, on account of the known tendency of the poison or the product of its chemical action, to depress the action of the heart and to reduce the number of beats in many cases below the normal standard, even when the temperature remained at an elevated point.

With reference to the yellow jessamine (gelsemium sempervirens), Dr. Cleveland, of Cincinnati, states that its value in the treatment of malarial fever was accidentally discovered by a planter suffering under bilious fever, who took by mistake an infusion of the root of this plant, and was cured, although for a time he lost all muscular power. It has been announced more than twenty years ago as a speedy cure for intermittent fever, and has been largely used in this disease in the Western and Southern States.

Dr. Nash, of Norfolk, who has employed it in many cases of fever, affirms that it has produced the most desirable effects, neither age nor sex interfering with its exhibition; and whilst he does not rely solely upon it, in all cases, especially those of a high grade, he thinks that it is entitled to rank as a co-efficient with quinine in fevers. It has been chiefly used in the form of tincture, an excellent preparation being made by Dr. St. John, an experienced druggist of Alexandria, La. Dr. T. A. Mayo, who has published a valuable paper upon the gelsemium in the Charleston Medical Journal and Review for March, 1857, affirms that he has never been disappointed in a single instance in obtaining a direct sedative action from the use of the gelsemium; the patient being speedily quieted, although he may have been excessively agitated previous to its administration. Under its influence restlessness is soon succeeded by calm repose, and the excited, frequent pulse tempers down to tranquility. These favorable impressions must be secured, however, by a frequent repetition of the dose, as its effects are not very durable, wearing off in two or three hours.

(*To be continued.*)

## Report on Intra-Mural Sepulture in the City of New Orleans.

Adopted by the New Orleans Medical and Surgical Association, at their Meeting Held on Saturday, May 31, 1879.

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*To the President and Members of the*
*New Orleans Medical and Surgical Association :*

GENTLEMEN—

Your committee, appointed for the purpose of drafting a memorial on the subject of intra-mural burials in the city of New Orleans, respectfully report as follows :

The present corporate limits of New Orleans extend from the upper line of Carrollton to the Slaughter House, include Algiers on the right bank of the river, and reach as far back as the Rigolets Station on the water course separating Lake Pontchartrain from Lake Borgne. In the length and breadth of this vast surface their exist 31 *graveyards*, distributed as follows in the order of municipal districts.* (It should be stated here, that the cemeteries on the Metairie Ridge are classed separately, for the reason, that they do not come under the category of graveyards popularly designated as "intra-mural".)

| | |
|---|---|
| First District.....1 graveyard. | "American," on Basin street, near Girod. |
| Second District....4 graveyards. | 1. "St. Louis, No. 1," Basin, between Conti and St. Louis streets.<br>2, 3, 4, "St. Louis, Nos. 2, 3, 4," Claiborne, from Custom-house to St. Louis streets. |
| Third District.....4 graveyards. | 1. "New St. Louis," Esplanade, near Bayou St. John.<br>2. "Hebrew," Gentilly Road.<br>3. "St. Vincent de Paul," Louisa and Urquhart<br>4. "Campo Santo," Urquhart near Girod street. |

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* The committee are indebted to the courtesy of the Board of Health, for the data contained in this report concerning the number and distribution of the cemeteries.

| | | |
|---|---|---|
| Fourth District.... | 4 graveyards. | 1. "Lafayette No. 1," Washington and Prytania streets.<br>2. "Lafayette No. 2," Washington and St. Patrick streets.<br>3. "St. Joseph No. 1," Washington, near St. Patrick streets.<br>4. "St. Joseph No. 2," Sixth, near St. Patrick street. |
| Fifth District..... | 2 graveyards. | 1. "St. Bartholomew," Alg's.<br>2. "Hughes," Algiers. |
| Sixth District..... | 2 graveyards. | 1. "Valence," Valence street.<br>2. "St. Vincent's," St. Denis street. |
| Seventh District.. | 2 graveyards. | 1. "Catholic," Carrollton.<br>2. "City," Carrollton. |

Total.....19 graveyards.

Beside the above, there are also 12 cemeteries on the Metairie Ridge, as follows:

| | NAMES. | DISTRICT. | LOCATIONS. |
|---|---|---|---|
| 1. | "Holt"..... | 2d..... | Metairie Ridge... |
| 2. | "Metairie"..... | 1st..... | do. do.... |
| 3. | "Odd-Fellows"..... | 2d..... | do. do.... |
| 4. | "Masonic"..... | 2d..... | do. do.... |
| 5. | "Ev. Lutheran St. John".. | 2d..... | do. do.... |
| 6. | "Cypress Grove No. 1"... | 1st..... | do. do.... |
| 7. | "Cypress Grove No. 2"... | 1st..... | do. do.... |
| 8. | "Greenwood"..... | 1st..... | do. do.... |
| 9. | "Potter's Field"..... | 1st..... | do. do.... |
| 10. | "Hebrew No. 1"..... | 1st..... | do. do.... |
| 11. | "St. Patrick's No. 1"..... | 1st..... | do. do.... |
| 12. | "St. Patrick's No. 2"..... | 2d..... | do. do.... |

Total 12 *graveyards on Metairie Ridge;* thus making a grand total of 31 cemeteries spread out over the whole of the immense territory included within the corporate limits of the city of New Orleans. Narrowing the subject, however, within the boundaries of the portions of that area which are regularly inhabited, we find, according to the above list, that of this grand

total of 31 *cemeteries*, *twelve* are already situated on the Metairie Ridge, at some distance from the city proper, and these graveyards are not classed in the same category with the others, which are termed "intra-mural." These last are *nineteen* in number; in size, with but few exceptions, they occupy an ordinary city square block, and these 19 cemeteries are scattered over the vast surface of territory extending from Carrollton to the United States Barracks, and comprising Algiers. Besides, as the list of cemeteries shows, the Second, Third and Fourth Districts are the only ones in each of which there are four cemeteries. In the First District there is but one, and the Fifth, Sixth and Seventh Districts (which are, properly speaking, rural or suburban), only contain two apiece.

The question of interments and cemeteries is governed by the following sanitary laws, which are taken from Leovy's "Laws and Ordinances of New Orleans." In stating these laws and ordinances, your Committee, for the sake of brevity, intend mentioning only such articles as have direct reference to the subject of this report, and therefore purposely omit others whose bearing is of a character affecting the matter at issue more remotely. Under the heading "Cemeteries and Interments," the following articles are found:

"Art. 3. All tombs must be built of the best kind of brick or stones, laid in mortar, with the proper proportions of the best cement and sharp sand, and covered with bitumen on the ground floor of each tomb, with walls not less than nine inches in thickness, and plastered. All the tombs must be kept in good order, and it shall be the duty of the sexton to notify the owners thereof to have them repaired; otherwise it shall be done by the city, at the expense of the owners, who shall be fined in the sum not exceeding fifty dollars."

"Art. 4. The Mayor and recorders are each authorized to grant permits for the opening of tombs in the public cemeteries, to such persons as may make such application to deposit a dead body therein."

(At the present time these permits are granted by the Board of Health.)

"Art. 5. The various churches and associations owning cemeteries are authorized to use them under such regulations made

by them, from time to time, as may not conflict with city ordinances."

"Art. 7. All sextons shall inter, within the shortest possible delay, all deceased persons who may be conveyed to their respective cemeteries, in graves to be dug not less than four feet in depth, and to be at a distance of at least three feet from each other, according to such limitations as shall be described by the city surveyor, and in pursuance of such directions as they may receive from the Mayor * * * "

The remainder of the article is omitted, as it relates to the duties of the sextons, in connection with the bestowing of proper care, etc., upon the cemeteries under their charge.

"Art. 10. It shall be the duty of the surveyor to visit the cemeteries once a month and oftener, if he deems it necessary, in order to prescribe the limitations, according to which the graves and tombs are to be made, care being taken to reserve all around and along the fences, such places as may be necessary to build tombs for account of the city; and it shall be the duty of the street commissioners to visit the cemeteries once a month, and see that the ordinances are observed."

"Art. 11. No burial shall be permitted in any churchyard in this city, except the pastor of their churches, under a penalty of five hundred dollars."

"Art. 14. It shall be the duty of every person, at whose domicile any person shall have died, to cause the same to be buried within forty-eight hours after his death; and any person offending against this section of this ordinance shall pay a fine not exceeding one hundred dollars for each offence."

"Art. 18. Hereafter, no person shall be buried in the ground of the cemetery on the square comprised within Washington, Sixth, Prytania and Plaquemine streets, of the Fourth District, and in future, no interments shall be made therein, except by persons owning lots, vaults, or tombs; and further, that the St. Joseph Asylum, of the Fourth District, may use square No. 271, for burial purposes."

The graveyard question is one, in which the population of every locality feels the deepest interest. In this city, to the best of the knowledge and belief of your Committee, the influence of intra-mural cemeteries has never as yet been

studied with the care, the subject deserves. In moments of panic, the cry has occasionally been raised, that the graveyards were the cause of yellow fever. Men of science have avoided any such categorical assertion, for they are well aware of the gropings of the profession to the present day, with reference to the cause or causes of yellow fever; but among their number, some, reasoning upon theoretical grounds, may have concluded, that because it has been demonstrated that graveyards have proved injurious elsewhere, therefore they must have poisoned the health of New Orleans. Reflection will, however, speedily show the unscientific character of such reasoning, and therefore your committee believe that if the intra-mural graveyards are to be condemned at all, it must only be after a most minute and careful investigation; one that shall not be conducted hastily, for the subject should not be slighted, if the result be expected to meet with that consideration accorded by thoughtful minds to the dicta of science.

A plan of investigation of the influence of graveyards upon the surrounding neighborhoods was suggested some months ago. This plan, which as your committee learn has very recently received some attention from the Board of Health, consists in taking a given graveyard (or more than one, if it be deemed advisable), in block with a certain number of squares in its neighborhood, and in comparing these with a corresponding number of squares situated in another portion of the city where there is no cemetery, attention being given to the fact that these two groups of squares should be comparable in point of population. Then, the comparative mortality of these two groups of squares should be studied during a number of years—the greater the better. The records of the Board of Health would doubtless afford a solution of this interesting question, but precisely owing to the fact that the labor of going over old archives in the manner proposed is one of great tediousness, the result should not be proclaimed too hastily.

With regard to the deleterious influence of cemeteries upon human beings, two principal classes of effects may be established. 1. In localities where ground or river water is in general use, burials in the earth are undoubtedly dangerous, owing to the saturation of the soil and the contamination of

the sources of water supply, even at great distances. This class of effects may, for the reasons with which all are acquainted, be dismissed from consideration as far as New Orleans is concerned. 2. Under this heading are grouped the putrefactive changes due to cadaveric decomposition, and the effects produced by the gases evolved during its continuance. It is deemed unnecessary, for the purpose of this report, to recite these changes and enumerate these gases. It will be sufficient to state that there is no warrant for asserting that the intramural graveyards of this city have ever been proved to have occasioned zymotic or other diseases in the neighborhoods by which they are surrounded, and therefore their influence upon the more remote portions of the city is, to say the least, extremely problematical. Indeed, it is found that in a country like France, where a great deal of legislation has been brought to bear upon cemeteries, the distance at which a graveyard may, under certain circumstances, be looked upon as dangerous, has been fixed at 100 metres. (The metre is equivalent to about 39 inches English measure.) That is to say, that the French law considers it safe for human beings to reside not further than about 300 feet from a cemetery.

The experience of last summer is yet so fresh in the minds of all, that it is scarcely necessary to mention that the epidemic of 1878, in New Orleans, broke out on Constance street, near Terpsichore, that is to say, at a point fully one mile distant from the nearest graveyard, and in the First District of the city, which, *unlike all the others, has but one cemetery within its limits.* (The cemeteries on the Metairie Ridge being always excepted, for the reasons given above.) And it also remains to be proved, that even in the height of the late epidemic, there were more cases of yellow fever, or more deaths from that disease, in the neighborhoods surrounding the various graveyards, than in other parts of the city.

The following extract from an article published some time since, in the "New Orleans Journal of Medicine," by Prof. S. M. Bemiss, M. D., is introduced here, as illustrative of the position taken in this report:

"Sanitary laws, unlike civil and moral laws, are not universal in their application, but have grown out of the necessities

of localities differing radically as to the circumstances affecting the health of their respective populations. On this account very little of what has been legislated or written in regard to intra-mural sepulture is applicable to the mode of burial in this city. There is no reason to doubt that ill health to the occupants of such houses has frequently followed their erection upon soil that had nearly or quite reached the point of saturation, or in other words, soil which from repletion of animal remains no longer retained its powers of disinfection and deodorization.' But no such facts can properly apply to the mode of sepulture practised in this city. Here the bodies of the dead undergo such rapid disintegration and volatilization that within a very few months, only the ashes remain. Some very few exceptions occur, a portion of which are attributable to the fact that the burial cases are hermetically sealed and thus the process of decomposition is retarded, in another portion partial dessication and mummification take place."

The quotation from the article written by Dr. Bemiss is interrupted here, for the purpose of stating that, on another occasion, a member of this committee* called attention to the danger arising from the use of so-called hermetically sealed metallic burial cases, which, while they in no manner prevent decomposition, still retard the dissemination of the gasses resulting therefrom.

Dr. Bemiss continues: "But these latter examples are so few, that the question is mainly in reference to contaminations of the atmosphere by the volatilized elements of dead bodies undergoing extremely rapid decomposition, but enclosed with carefully constructed walls of stone or brick. The very elevated temperature, to which the air of these vaults must be brought by the almost tropical heat of the sun, is not favorable to the life of the germs of zymotic diseases, so that I presume these affections are seldom or never communicated by emanations from our tombs. Moreover, the process of destruction is so rapid and complete, as to resemble combustion more than ordinary decay; the period, therefore, must be brief, when any form of organic effluvia will continue to escape.

* Dr. D. C. Holliday.

In the absence, therefore, of all proof or information to the contrary, I conclude that our method of interment is not prejudicial to the health of inhabitants, even living in the immediate vicinity of cemeteries, in any other manner, than in adding to the amount of organic matter floating in the atmosphere, and thus increasing its aggregate impurities."

For the foregoing reasons, and also from the fact, that owing to the small size of each graveyard considered *singly*, as well as owing to the manner in which the cemeteries called "intra-mural" are scattered over an immense surface of territory, as has been shown in this report, and the relatively limited number of corpses buried in *each* of these graveyards weekly or monthly, as the mortuary reports of the Board of Health attest, your committee believe, that under the peculiar circumstances in which the population of this city is at present placed, and which do not require more than a passing allusion, it would be a positive injustice and hardship to the greater number to close the "intra-mural" cemeteries, when there is no evidence to prove that the squares in the vicinity of cemeteries are worse off in the matter of health, than others more remotely situated.

The graveyard is the resting place of many loved ones, and precisely because in connection with it, sentiment has sent forth its roots into every hearth, science should avoid being unnecessarily dictatorial, and its judgment should only be rendered, when the proofs of conviction are indisputable.

Your committee in bringing this report to a close, tender, however, the suggestions formulated below, with reference to the system of burial as now practiced in New Orleans. They believe these suggestions will cover the entire ground of controversy, and afford every reasonable assurance of protection to health and life.

1st. Prohibit the establishment of *any new cemeteries*, within certain limits of the city; said limits to be defined by the proper authorities.

2d. As to the graveyards now in existence, your Committee would recommend *the adoption of the strictest sanitary measures in their administration*. The foregoing language is selected as being sufficiently comprehensive to embrace all reforms which

may be deemed needful. For instance it would include the following points:

(A.) Do away with the present system of building ovens and burying in the same, because, as now constructed, one of the walls of these ovens forms the enclosure of the graveyard, thereby offering possible sources of danger and offense, from loosely jointed or imperfectly cemented bricks.

(B.) If any new ovens be constructed, require that they shall be built independently of the wall of enclosure, and that they shall be removed a certain distance from said wall. Thus, these ovens, in the future, will be assimilable to ordinary tombs, and for these, as well as for those, observe all possible care in their construction, with regard to the manner in which they shall be cemented when in course of erection, inspected at stated intervals, and sealed when burial takes place.

(C.) Exact from all keepers of graveyards strict compliance with the laws or ordinances relative to the length of time which is fixed, before vaults may be opened for the purpose of allowing fresh interments.

(D.) Maintain a rigid sanitary police surveillance over the general arrangements for cleanliness and disposal of causes, which may seem offensive or insalubrious in any given graveyard or graveyards.

(Signed,) THOMAS LAYTON, M. D., Chairman,
do. DAN'L C. HOLLIDAY, M. D., } of Commitiee.
do. L. F. SALOMON, M. D. }

## CORRESPONDENCE.

NEW ORLEANS, May 24th, 1879.

*Editors New Orleans Medical and Surgical Journal:*

GENTLEMEN—Having been requested by the Louisiana State Medical Society to further pursue my investigations into the existence of *Leprosy* in Louisiana, I would ask you to be kind

enough to insert the following questions in your Journal, with the request that physicians in this State having any knowledge of the existence of the disease be good enough to communicate with me.

Most respectfully, etc.,

L. F. Salomon, M.D.,
515 Baronne street.

"QUESTIONS:

"1st. Are there at present any cases of Leprosy in your parish? If so, how many? What is the race or color of said cases?

"2d. State the variety—whether Tubercular or Anæsthetic.

"3d. Give the history, as far as can be ascertained, of one or more cases.

"4th. In the cases within your knowledge was the disease hereditary or acquired?

"5th. If possible, give approximate date of the appearance of the first case of Leprosy in your parish.

"6th. Have any cases been treated by you? If so, please state treatment and result."

## OBITUARY.

### JOHN MAYNARD WOODWORTH.

The death of the supervising surgeon-general of the marine hospital service will take the country by surprise. His youth and vigor, and the prominence in which he has been placed during the past year, owing to his active labors in behalf of State medicine, have led many to predict for him a long and honorable career. It was doubtless the great mental and physical strain thus imposed that overpowered him, and opened the way for an erysipelas, which was followed by a fatal pneumonia. He was born at Big Flats, Chemung County, N. Y., August 15, 1837. He was taken to Illinois by his parents, and was educated at the Univereity of Chicago. He first studied pharmacy, and attended the lectures on Medicine and Chemistry at the Rush Medical College. He afterward entered upon the regular study of medicine in that institution. The winters of 1859, 1860 and 1861 he spent in the Smithsonian Institution,

working under the personal supervision of Prof. Spencer F. Baird. He graduated in 1862 ot the Chicago Medical College. He immediately entered active service in the army of the Union as an assistant post surgeon at Camp Douglass, Illinois, and shortly after was appointed assistant surgeon of volunteers, and joined General Sherman in the field near Corinth, remaining with his command until the Union armies were mustered out in 1865. In 1863 he was promoted to the rank of surgeon, and assigned to duty as medical inspector of the fifteenth army corps, and afterward medical inspectsr and medical director of the army of the Tennessee. During Sherman's march to the sea he was breveted lieutenant-colonel. In 1865 he visited Europe, and in 1866 he established himself in Chicago. In 1871 he was appointed supervising surgeon-general of the marine hospital service of the United States, a position which he held up to the present time.

Dr. Woodworth's valuable work in promoting the efficiency of the service he had in charge has been frequently commented upon by us, and is well known to our readers. The valuable weekly sanitary reports compiled from all quarters of the globe savor of an enterprise peculiarly American, and were highly creditable to himself and the country. He has been indefatigable in his work on the yellow fever commission, and in his efforts to obtain national legislation which would enable us to prevent a return of the disease. The bill which finally passed during the last hours of Congress, and the text of which we give elsewhere, although not in accord with his views, established a board of health to which he, among others, had already been appointed when death snatched him in the very height of his career. His loss will be sincerely mourned by the profession throughout the country.—*Boston Medical and Surgical Journal.*

# Current Medical Literature.

## THE UTERO-OVARIAN AMPUTATION AS COMPLEMENTARY TO THE CÆSAREAN OPERATION ACCORDING TO THE METHOD OF DR. PORRO, OF PAVIA.

(From the *Chicago Medical Journal and Examiner*, March, 1879.)

The utero-ovarian amputation in a woman subjected to Cæsarean section was first practiced at Pavia, May 21, 1875, by Professor Porro. In this case it was an operation of necessity, being the only means capable of arresting a hæmorrhage which threatened to be speedily fatal. The circumstances surrounding the patient were as unfavorable as possible; an epidemic of puer-

peral fever raged in the wards of the maternity at Pavia; and yet the experiment of Porro was crowned with complete success. At the end of six weeks his patient left the hospital, and was able to bear the fatigue of a journey of several hours. * * *

The beginning of the operation resembles that of ordinary Cæsarean section, up to the moment when, the uterus being widely open, the surgeon can proceed to the extraction of the child. This done, instead of separating the placenta immediately, the uterus is drawn out through the abdominal wound, and kept there by strong traction. The assistants draw the edges of the abdominal wound together, compressing them about the uterine neck. The after-birth is not detached and removed until, by means of these precautions, the penetration of blood into the peritoneal cavity is prevented. The pedicle of the tumor formed by the uterus and its appendages, is clasped by the loop of a linear écraseur, and tightented sufficiently to arrest the flow of blood. All the parts are then removed with the bistoury to within two centimeters of the chain of the écraseur, then the stump thus obtained is traversed by a long needle through its base, which prevents its retraction within the abdominal cavity. The lips of the abdominal wound are united to each other or with the base of the stump by sutures. All the portion of the stump beyond the chain of the écraseur falls at the end of several days, the rest becomes adherant to the abdominal walls, and the cicatrization is complete at the end of a month or six weeks.

Since the 21st of May, 1875, the utero-ovarian operation has been performed fifteen times. An Italian journal (*Annali universali di Medicina e Chirurgia*, Nov. 1878), gives a statistical table of these fifteen cases; we reproduce it, as it is better calculated to show the advantages of the new method than any theoretic reasoning.

In 1875, utero-ovarian amputation was performed once only, May 21, at Pavia, by Prof. Porro; the patient, as we have said, got well in six weeks.

In 1876, three operations; two at Vienna by Prof. Spaeth, giving one death and one success; a third, also at Vienna, by Prof. Braun, followed by death.

In 1877, four operations, all followed by death: one at Milan by Prof. Chiara: a second at Fribourg by Prof. Hegar; a third at Bergamo, by Dr. Previtali; the fourth at Berne, by Prof. Muller.

In 1878, seven operations; at Milan, by Prof. Chiara, two cases, one death and one cure; at Turin, Prof. Tibone, one death; at Liege, Prof. Wasseige, one cure and one death; at Prague, Prof. Breisky, one death; at Brescia, Dr. Peroglio, one cure.

Seven cures and eight deaths; a result not sufficient to remove the dread of Cæsarean section, but when compared with the old plan we cannot help recognizing that the process of

Porro constitutes an important progress, one deserving its adoption in the practice of our hospitals.

Since the publication of the above article in the Chicago Journal, we have received news from Italy that in the first quarter of this year three more operations were performed in Turin, by Professors Tibone, S. Giordano, and G. Berruti. The first case died of shock; the second recovered, perfectly well. Though we did not hear yet of the final result of the third, we are able to state that the patient was doing well a few days after the operation.

For all these cases the women had an extremely viciated pelvis, so as to render natural labor impossible. The three fœti came out alive, and healthy. J. D.

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A CASE OF CÆSAREAN AND UTERO-OVARIAN AMPUTATION.

[Translated from *L'Indipendente* of Turin, May 25, 1879.]

On the 16th of May at half-past 5 o'clock, P. M., Doctor G. Berruti performed the utero-ovarian amputation, assisted by Professors Giordano and Tibone.

The operation was completed in 35 minutes. The woman went under the influence of chloroform very easily, so that she did not feel a single pain during the whole time of the operation.

The method was about the same as that recommended by its bold inventor, Professor Porro of Pavia.

An incision was made on the *linea alba* down to the pubis, three centimetres over it, and then the peritoneal cavity was opened. The womb, which had been firmly kept fixed to the abdomen by Prof. Tibone, was next cut to the extent of a few centimetres. The lips of this wound were seized by the strong pincer of Téan, and drawn out as externally as possible, and the placenta was opened.

After having given to the wound of the womb, both above and below, a larger extension of 10 or 12 centimetres altogether, the fœtus was promptly extracted. The placenta was detached; the pincer of Péan approximated, and by their aid the womb and both ovaries were drawn completely out. A portion of intestine that had threatened several times to protrude through the inferior part of the abdominal wound, was kept in situ until the end of the operation. This portion of intestine was extremely red, and injected, a fact observed in other cases. The womb was then kept up suspended, and the operator introduced in the inferior portion corresponding to the neck, the extremely curved trocar of Prof. Tibone. Through the canula of this trocar a double strong silk thread was passed, in order to divide the peduncle in two, and have it tied so as to cause its

anæmia. The intention of the operator here was to substitute for the metallic ligature, of the peduncle, and *constrictors of Gintral*, a simple silk ligature, with its ends to be fixed outside of the abdominal wound. But, as, after the excision of the peduncle with the semilunar knife, the uterine arteries gave way to great quantity of blood, it was thought prudent to apply around the peduncle a strong metallic ligature, and to have it crushed by the *excraseur* of Köberle. The hæmorrhage stopped immediately. After the dressing of the peritoneal cavity, the operator proceeded to the sutures of the abdominal wound. The last point of the inferior suture was made with a larger needle and a stronger thread, in order to pass through the lips of the wound and the peduncle, which was touched by the liquid perchloride of iron.

The whole operation was executed under the carbolic acid spray, and the farther dressings of the wound were strictly made according to the antiseptic system of Lister.

The patient had a very severe but not infectious peritonitis. She is now on the tenth day after the operation, and nearly approaching convalescence. The temperature never reached 40 degrees (105° F.). Everything is in favor of a rapid recovery. The fœtus of the size of 2750 grammes is in excellent health.

The pelvis of this woman is extremely defective. The minimum diameter is 4 centimetres. The stature of the woman is of 1.03 m., and every bone of her skeleton is deformed.

Of the final result of this operation we will let the medical profession know, whatever it may be. J. D.

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## TURPENTINE IN WHOOPING-COUGH.

(*Wiener Allegem. Med. Zeit.*, No. 12, 1878.)

Dr. Gerth cured a case of laryngeal catarrh by placing twenty drops of turpentine on a handkerchief, held before the face and causing about forty deep inspirations to be taken. Repeating this thrice daily, the cure was quite rapid. In the same family he found an infant fifteen months old in the convulsive stage of whooping cough, quite exhausted, and vomiting all ingesta. There was at the same time slight bronchial catarrh with slight evening rise of temperature. Gerth decided to experiment here also with turpentine. He directed the mother to hold the moistened cloth as above, before it when awake, and to drop the oil upon its pillow when asleep. The result was most happy. Within the twenty-four hours the frequency and severity of the attacks notably diminished. The child's strength was sustained by stimulants, and improvement was very rapid. Within a year pertussis became epidemic in his vicinity, and he repeatedly tested the drug in this way. He gave it to children of all ages, and in any stage of fever. The initial catarrh, the convulsive, and the final catarrhal stages were all decidedly benefitted, the spasmodic attacks being in many cases aborted. *Chicago Medical Journal and Examiner.*

### A SANITARY PROTECTIVE ASSOCIATION.

An association under the above name has been formed at Newport, R. I., for the purpose of securing, at a moderate cost, sanitary advice and protection to its members. Such associations have been in successful existence in Edinburgh, but this is the first of its kind in this country. The organization includes an inspecting engineer and a chemist. The members pay an annual due of six dollars, and for this are entitled to have their house inspected by the engineer and an analysis of the drinking water made by the chemist. By a small additional fee they can obtain similar service for any other houses which they may own. They can also have a report, without fee, upon the sanitary condition of any church, school-house, or place of public resort within the city of Newport, and can have occasional supplementary inspection and advice concerning the dwelling or property in respect of which they are subscribers.

The Association is intended to supplement and not conflict with any public health board. Its object is an excellent one, for it cheapens the cost of thorough sanitary inspection, and will therefore tend to diffuse a wider knowledge and excite greater attention concerning matters of public hygiene.—*N. Y. Med. Rec.*, April 26.

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### INEFFICIENCY IN EXPERT TESTIMONY.

In a report upon certain medico-legal cases by Dr. Thad. M. Stevens, the bad state of affairs that still exists in connection with expert testimony is very clearly shown. Experts who are ignorant, experts who lack common sense, and experts who are dishonest, are referred to in the illustrative cases cited. We have before commented on this and shown, as is done by Dr. Stevens, that, while there are many points in toxicology not yet satisfactorily worked out, yet the present trouble does not lie in the incompleteness of the science, but in the present method of calling experts, some being retained by the prosecution and some by the defence.

The first case given, in particular, shows what an ingenious expert can do when under the stimulus of a fee from the defence. A woman received a potion from her husband and a few hours afterward was taken with convulsions and died. The defendant's expert admitted at first that the symptoms covered nearly all those of strychnine poisoning. In addition he had received privately the glass from which the potion was given, and found strychnine still in it. He did not mention this fact, however, but testified that, though the symptoms were much like those from strychnia poisoning, they might have been due to morphine—a drug the woman had been in the habit of using, and one whose effects sometimes resembled those of strychnine. He asserted that no strychnine was found in the stomach, but omitted to mention that morphine might obscure

the test. In fact, the exhibition, from a scientific point of view, was truly a grotesque one; but the defendant was acquitted. Other cases of like character are given, but such things are too well known to need further illustration here.

The only remedy, and it is a simple one, is to have a commission of experts appointed by the court; they can then work without bias, and can produce evidence that is not contradictory, and that does not make themselves ridiculous and their science inefficient. The existence of much false and stupid testimony has now become a glaring fact, of which we have had some very interesting instances in New York, and the present pamphlet should help to awaken some practical efforts for reform in the matter.—*N. Y. Med. Rec.*, April 26.

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### CEREBRO-SPINAL MENINGITIS.

Dr. J. H. Strangher, of Lexington, Mo., writes that Dr. Lee Alexander, of Marshall, Mo., treated cerebro-spinal meningitis as follows, with great success: Resolved to try something, as all previous plans had proved unavailing; the patient's body was entirely anointed with oil of turpentine, and then, with the exception of the head, to which ice was applied, he was immersed in a barrel of water as hot as could be borne by the hand. The bath was continued for fifteen minutes, and repeated every hour until relief came to the patient, which was usually so marked that for the second bath it became necessary to arouse him. The tetanic symptoms were usually relieved by the first immersion, and subsequently the bath was called for by the patient. The internal treatment consisted of turpentine in 15–25 drop doses, bromide of potassium 15–20 grain doses, gelsemium, beginning with doses of 8 to 10 drops, and increasing until double vision occurred, and blister to the nape of the neck. He claims twenty-two recoveries out of twenty-three cases. The only untoward symptom developed during treatment was epistaxis in a child two years old, which subsided as soon as the gelsemium was discontinued, it having resisted all the usual remedies.—*Medical Record*, June 7.

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### HOW TO MEASURE A SCULL.

The following directions are given by Dr. W. H. Flower, F. R. S., in a lecture before the Royal College of Surgeons:

The length of the skull is measured from the middle of the forehead, above the glabella—the *ophryon*—to the most prominent part of the occipital region. The breadth is the greatest lateral breadth in the parietal region. The cranial index, which is the expression of the relation of the breadth to the length, is found by a simple calculation, the length being taken at 100. When the index is over 80, the skull is called *brachycephalic;* when it is below 75, it is said to be *dolichocephalic;* those between 75 and 80 are *mesocephalic.* The height is the distance

between the basion and the bregma. The orbital index is the relation of height to the width of the anterior margin of the orbit cavity. The average in Australian skulls is 82, in European 88, which gives a fair indication of the difference of form in this part in the two races. The nasal index is the relation of the height of the bony framework of the nose to its breadth. The height is measured from the nasion to the lower border of the aperture, or base of the nasal spine. The breadth is the greatest breadth of the aperture. This is one of the most useful of all the cranial indices in distinguising races. The average nasal index of all the races is about 50. Races or individuals in which the nasal index is from 48 to 52 are called *mesorrhine ;* those in which the index is below 48 are *leptorrhine*, or narrow nosed ; those in which the index is above 52 are *platyrrhine*, or broad nosed. To this latter category the Australians belong, the average index of their nose being 57. The condition of the frontal suture should always be observed in examining a skull. In its early stage, the frontal bone is developed in two lateral halves, united by a suture. At the age of two years, this suture is generally obliterated. Sometimes, however, it remains open ; indeed, if it be not obliterated during the second year, it generally remains open throughout life. When this suture is permanently open, the skull is said to be *metopic*. Among English skulls, it is found to be open in about one in ten, but in one hundred Australian skulls here and in other museums in this country there is not one instance where it is closed. In this respect they resemble the anthropoid apes, among which metopism is rare, though among many still lower forms of mammals, as the Ungulata, it is the normal condition. —*Medical and Surgical Reporter*, May 24.

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### A DICEPHALUS MONSTER.

It will be remembered that some months since it was announced that a double female monster of the dicephalus type had been born near Montreal, in Canada. This remarkable monstrosity has been recently on exhibition in New York, and excited much interest among the profession. It is known as the "St. Benoit Twins." The twins are called Rosa and Mary, and they are now seven months old. They have two perfectly formed and natural heads, and two bodies also, as far as the last rib, but below that both are fused into one. They have four arms, only two legs, and each child has the control of but one of them. As far as the natural functions of life are concerned, each is almost separated from the other, and one may be sleeping while the other is laughing, crying or nursing. They have but one abdomen, one umbilicus, one vagina and one rectum ; although the stomachs, and some, at least, of the other abdominal viscera seem to be separate. There was no physician, and not even a professional midwife in attendance ; only an ordinary female friend, assisted by the mother, were

present at the confinement. One of the heads presented first, and after that was delivered, the body belonging to it followed. Next came the body of the second child, with two legs doubled up alongside of it, and finally the head of the second child. They are now really fine-looking children, and apparently perfectly healthy, although one of them seems to be somewhat larger and better developed than the other.—*Extract from letter in Boston Journal.—St. Louis Medical and Surgical Journal.*

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### A REMARKABLE HOMICIDE.

There is now confined in the city prison of the District of Columbia a negro whose head would have done splendid service at the siege of ancient Troy, as in those days battering rams were called into service in lieu of our modern cannon.

In an affray with another colored man, incited by jealousy of the affections of a dusky Helen, and moved by the machinations of the fabled green-eyed monster, this African ram seized his opponent in such a manner as to *butt* his head against his own, breaking in the skull of his rival in as many small pieces as a boiled egg subjected to repeated strokes with a spoon preparatory to removing the shell. The fragments of the mashed skull are so fine that much skill has to be exercised in the process of mounting the same, which is now being done.

The specimen will be placed on the witness-stand, and cannot fail, though mute, to prove a most impressive and persuasive witness at the approaching trial.—*National Medical Review.*

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### BRUISES—CHLORINE WATER.

Dr. S. A. Oren writes: A case of bruise causing discoloration of the skin (black eye) came under my care. I used a cloth saturated with *chlorine water* on the bruised part as an experiment, depending upon its power as a bleaching agent to bleach the part. I kept the eye closed and greased the edges of the lids so as to prevent contact and irritation of the eye. The discoloration was all gone in five days. I had seen the same party with the same trouble on several prior occasions, and the part was always discolored not less than two weeks.—*Med. Brief.*

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### URTICARIA—BISULPHITE OF SODA.

Dr. Carter, Mt. Jackson, Ind., states that the hypodermic injection of a saturated solution of bisulphate of soda, in urticaria, is the most prompt remedy in relieving this troublesome affection he has yet tried. It appears to act upon the periphery of the cutaneous nerves as does belladonna, except that the latter has a heating and the former a cooling effect.—*Med. Brief.*

### BREECHES.

MALTA, O., January 21st, 1879.

EDITORS RECORDER:

On the 12th inst., I delivered Mrs. W. B., of her ninth child —a male, weighing 11½ pounds. This makes for this lady five males and four females at nine consecutive labors. All except the second were breech presentations, and all viable.

How is that for breeches? Don't you think she ought to wear the breeches, until some one is reported to beat it?—*The Ohio Medical Recorder.* W. W. W.

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### HOMŒOPATHIC CONFECTIONERY.

In some parts of Germany physicians are not permitted to dispense medicines, when there is an apothecary in the place to do it for them. We learn from the *Allg. Hom. Zeit.* that three homœopathic physicians were practising in Regelsburg, when an apothecary of the same belief came among them and notified them to send their prescriptions to him. Two of them refused and were brought before the court and fined about five dollars. The case was carried to a higher court, and the medicines (pellets) sent to the University of Erlangen for chemical analysis. The chemists of the university failed to find anything in them of a medicinal or poisonous nature, and so reported; whereupon the judge reversed the decision of the lower court, and declared that there was no law that prevented physicians from distributing sugar-plums (*Zuckerwaaren*) as freely as they chose.—*N. Y. Med. Rec.*, May 3, 1879.

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### ACTION OF THE BLATTA ORIENTALIS.

The blatta orientalis, or common cockroach, is a popular remedy in Russia. The researches of Bogomolow have given the following results from its employment: The quantity of urine is increased; the quantity of albumen diminished; œdema and ascites disappear; the weight of the body diminishes; the perspiration is generally increased; digestion is not impaired; the kidneys are not irritated. The dose employed was four and a half grains of the powder obtained from the dried insect. These results were confirmed by Unterberger, who employed the drug with great success in scarlatinal albuminuria. M. Koehler has also employed it in thirteen cases of dropsy of various origin. His results were sufficiently conclusive, and show that the blatta orientalis really possesses remarkable diuretic powers. Its most interesting action however, is its power to cause a rapid disappearance of the albumen from the urine. Hence it is not a simple diuretic, and its true field of action should be sought in Bright's disease. It seems to be entirely innocuous.—*Jour. de Méd. de Bourdeaux.*—*N. Y. Med. Rec.*, March 15.

### PHYMOSIS.

M. Huet, of Rouen, operates as follows: The prepuce on its dorsal aspect and opposite the base of the glans is pierced by a needle carrying a caoutchouc thread: the portion of the prepuce in front of the puncture is then ligatured, and the operation is finished. At the end of three or four days the section is completed. The patients do not suffer, and may, if necessary, continue their ordinary occupation. M. Huet has seen the operation succeed in eighty cases, including both old men and children.—*Canadian Journal of Medical Science.*.

### DYSPEPSIA—CHLOROFORM.

Dr. S. E. Wills writes: In that form of dyspepsia attended with rapid fermentation of food and evolution of gas soon after a meal no remedy gives such relief as chloroform—15 to 20 drops in a little sweetened water. It expels the gases from the stomach in a few minutes, arrests fermentation promptly and without any unpleasant effects.—*Med. Brief.*

### POISONING FROM AN OVERDOSE OF SWEET SPIRITS OF NITRE.

Mr. H. Cripps Laurence in the London Lancet records a case. The patient had been taking an ounce of sweet spirits of nitre in water at intervals during almost every day for three weeks. He was drowsy, incoherent, delirious, when roused answered questions, complained of headache, and said he had found it difficult to walk straight of late. He could see clearly, irides dilated, acting feebly; constipation, no vomiting, urine scanty, bladder empty. He recovered under diaphoretics and purgatives internally, poultices and dry cupping over kidneys.—*Canadian Journal of Medical Science.*

### A SUBSTITUTE FOR THE HORSE.

A number of country practioners in England are employing bicycles or tricycles as a means of locomotion, and the use of these vehicles is increasing considerably. They do not supply the place of a horse entirely, but they enable the physicians to do away with an extra one. The bicycles are made of iron and steel, the rim of the wheel being covered with rubber. Upon them one can travel over tolerably rough and icy roads and up quite steep grades. On good ground the rate of speed is a mile in five minutes: racing speed being, however, much greater. The ordinary rate of travel is eight or ten miles an hour. Tricycles are also made, which are safer than the bicycles and nearly as fast. In these the rider sits between two wheels which he propels by a treading motion; a third and guiding wheel is placed in front. There are very likely many places in this country where this mode of locomotion could be used with advantage.—*N. Y. Med. Record*, April 12, 1879.

## SMALLPOX AND GREAT POX.

The occasional similarity of syphilis to variola, which has led to their bearing a common name, is well illustrated by the following cases, given by Mr. Jonathan Hutchinson, F.R.C.S., in a recent lecture:—

One of the most remarkable examples of this eruption came under my notice about twelve years ago. A young gentleman called on me with a conspicuous papular eruption on his face and other parts. "I have just had small-pox," he said; "and Mr.——says that I am cured; but the spots don't go away." He added that Mr. ——, a gentleman of large experience, had kept him in bed a fortnight, and had since sent him into the country for a fortnight, and now said that he might return to his desk at a bank; "but," he continued, "the other clerks won't sit near me, and declare that I have small-pox still." He had a chancre, and the eruption was syphilitic. I have seen several cases which had been treated in the small-pox hospital for eruptions which were undoubtedly syphilitic. But I must not mention the mistakes of others, unless I am prepared to be candid about my own. I had many a time, in clinical lecture, mentioned the preceding facts, and enlarged upon the importance of distinguishing between the syphilitic simular of small-pox and the reality, when my own turn came. One day in the summer of 1877, I was hastily summoned to see a gentleman at his own house, who had just been landed from a sea voyage, during the whole of which he had been very ill. He had been carried from the vessel to his house, and put to bed; and I found him covered from head to foot with crusts exactly like those of variola in the third stage. Some had fallen, and where this had happened, deep scars were left. The eruption had begun to come out on the day that he went on board, and he had been feeling ill a few days before. The stages had been unusually long, but still had not exceeded possible limits. I questioned him as to syphilis, and examined his penis and his throat, but without finding any reason to doubt his denial. In a word, after a careful and skeptical investigation, I thought that the eruption was variola. The sequel proved that it was syphilis; the scabs took months to fall; and just when he was recovering from the eruption he had iritis, which I could not doubt was specific. At this stage, three or four months after I had seen him at home, in bed, he came to Moorfields Hospital. His face was pitted all over, and I had much difficulty in convincing those who then saw him that he had not really had small-pox. I could not quote an instance more conclusive in support of the assertion that one of the forms of syphilitic eruption is exactly like small-pox in all its stages, and in its resulting scars. Slow progress is the one difference between the two exanthems. The similarity is produced, no doubt, by the fact that syphilis in these cases attacks precisely the same anatomical structures as those in which the variolous pustule is

developed. It is scarcely needful to remark that this form of eruption always occurs in the secondary stage.—*Med. and Surg. Rep.*, May 17.

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### DIET AND LIQUOR DRINKING.

Mr. Charles Napier, in England, has been testing the truth of Liebeg's theory that liquor drinking is compatible with animal food, but not with a farinaceous diet. The experiment was tried upon twenty-seven liquor drinking persons, with results substantiating the Liebig theory. Among the more striking instances of reform brought about by a change of diet was that of a gentleman of sixty, who had been addicted to intemperate habits for thirty-five years, his outbursts averaging once a week. His constitution was so shattered that he had great difficulty in insuring his life. After an attack of delirium tremens, which nearly ended fatally, he was persuaded to enter upon a farinaceous diet, which, we are assured, cured him completely in seven months. He seems to have been very thin at the beginning of the experiment, but at the close of the period named had gained twenty-eight pounds, being then of about the normal weight for a person of his height. Among the articles of food specified by Napier as preëminent for antagonism to alcohol are macaroni, haricot beans, dried peas and lentils, all of which should be well boiled and flavored with plenty of butter or olive oil. The various garden vegetables are said to be helpful, but a diet mainly composed of them would not resist the tendency to intemperance so effectually as one of macaroni and farinaceous food. From this point of view, high glutinous bread would be of great utility, but it should not be sour, such acidity being calculated to foster the habit of alcoholic drinking. A like remark may be applied to the use of salted food. If we inquire the cause of a vegetarian's alleged disinclination to alcoholic liquors, we find that the carbonaceous starch contained in the macaroni, beans, or oleaginous aliment appears to render unnecessary, and therefore repulsive, carbon in an alcoholic form.—*Boston Journal of Chemistry*, May, 1879.

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### THE PERMEABILITY OF A STONE WALL.

We have before referred to the experiments by Pettenkofer and others, showing the readiness with which gases permeate walls of stone or brick. A Buffalo paper gives the following account of a recent illustration of the same fact: "Yesterday Professor Doremus, of the Buffalo Medical College, performed a very interesting and instructive experiment before his class. A block of sandstone, such as is usually employed for window-caps and sills, and about twelve inches square and four or five inches thick, had a panel one half an inch thick sunk in each

side. In each panel was fitted a block, which was perforated by a piece of common gas-pipe, and this was cemented about the edges. The whole was then coated with an impervious varnish. Air now entering the pipe on either side had access to the clean surface of the stone beneath the panel, and it was found that if the mouth be applied to the protruding pipe on one side, and a candle be placed in front of the opposite one, it could very readily be blown out by the air, which, with very little effort, was forced through the stone. When a rubber tube was connected with the house gas-pipe on one side of the stone, and a burner was attached on the opposite side, the simple pressure from the gas mains was sufficient to force the gas through the stone till it was lit at the burner on the opposite side. When by any means the pressure was increased, a very large flame was thus produced. This shows the permeability of building stone. Brick walls and the plastering of rooms are much more porous, and it is readily seen that unglazed tile, or stone, or brick sewers afford but little security against the escape of sewer gas.—*Boston Journal of Chemistry*, June, 1879.

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### THE EXTERNAL USE OF DIGITALIS IN SUPPRESSION OF URINE.

Dr. C. P. Russell says in the British Medical Journal: A married woman, aged 35, was attacked by acute albuminuria. The disease resisted the usual remedies. She became extremely œdematous, with congestion or œdema of both lungs. Respiration was rapid; the pulse weak and rapid. She became semi-comatose, and there was suppression of the urine for thirty-six hours. The case appeared hopeless: but having read in the British medical Journal a case in which the external use of digitalis was effectual in restoring the secretion of urine, I determined to try it. I ordered half-an-ounce of the tincture on a large linseed-meal poultice, to be applied to the abdomen. Next day I was agreeably surprised to find her vastly improved, quite conscious and cheerful. The œdema was very much diminished. Respiration was easy, and the pulse nearly natural. I was informed that in one hour after the application a copious flow of urine commenced and continued all night, and, what was very remarkable, the urine which the day before contained a large quantity of albumen, was now quite free from it. Convalescence was rapid, and she is now quite well.—*South Med. Rec.*, May, 1879.

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### THE DRY SUTURE.

Dr. John H. Packard recommends this in closing long wounds. He uses strips of Seabury & Johnson's porous plaster two and a half inches wide and the length of the wound. These are applied on each sibe of the incision, and then the sides laced together, using the holes in the porous plaster.—*Phil. Med. Times.*

# Reviews and Book Notices.

*Spermatorrhœa: Its Causes, Symptoms, Results and Treatment.* By Roberts Bartholow, A.M., M.D., Professor of Theory and Practice of Medicine and of Clinic Medicine, Medical College of Ohio, etc. Fourth edition, revised. 8vo., pp. 128. New York: Wm. Wood & Co., 1879.

This monograph has grown from an article published some years ago in the *Cincinnati Journal of Medicine*, and its merits are attested by demands for repeated editions, which have been enlarged and improved.

It is rather a reproach to the profession, and certainly a calamity to the public, that this subject has greatly fallen into the hands of unscrupulous charlatans; and it is highly commendable in the author to lend his efforts to rescue it from the obloquy which generally attaches to the complaint and to its treatment.

In the pathology of spermatorrhœa he recognizes three separate types: (1) the genital, in which "there are excessive sensibility of the sexual apparatus and greatly increased reflex excitability of the cord;" (2) the cerebral form, in which, with the preceding conditions, we find mental disorders, such as melancholia, delusional insanity and mania [to which should be added dementia]; (3) the spinal form, manifested by functional derangements or organic lesion.

The volume closes with several well-designed formulæ of remedies. S. S. H.

*Potts' Disease; its Pathology and Mechanical Treatment, with Remarks on Rotary Lateral Curvature.* By Newton M. Schaffer, M.D., Surgeon in Charge of the N. Y. Orthopœdic Dispensary, Orthopœdic Surgeon to the St. Luke's Hospital, N. Y. 12mo., pp. 82. New York: G. P. Putnam's Sons, 1879.

This essay was originally read before the Medical Society of the County of New York, and afterwards expanded into its present shape for publication. Its objects are to point out the defects of the plaster-of-paris jacket in the treatment of spinal caries, and to advocate the superiority of the author's mechanical contrivance,

which he terms "antero-posterior support." The peculiarity of this latter consists chiefly in two steel supports extending parallel on either side of the spine from the sacrum to the neck, which are held fast below by a girdle around the pelvis, midway by a broad zone of plaster bandage, and attached superiorly to straps passing under the axilla. The effect is to produce extension upward by the shoulder fastenings, while the counter-extension is effected by the pelvic band; and thus the gravity of the upper portion of the body upon the carious vertebræ is obviated. Great advantages are claimed over the plaster jacket, in respect of convenience, cleanliness and efficiency. There can be no doubt about the second consideration, but the last must be settled by experience, as in the familiar case of the pudding. The essay is certainly ingenious, and worthy the attention of orthopædists and surgeons in general.

S. S. H.

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*Lectures on Electricity in its Relations to Medicine and Surgery.* By A. D. Rockwell, A.M., M.D., Electro-therapeutist to the N. Y. State Woman's Hospital; Member Am. Neurological Association, etc. 8vo., pp. 99. New York: Wm. Wood & Co. 1879.

Dr. Rockwell is one of the authors of a larger work on medical electricity, in which he was associated with Dr. Geo. M. Beard, and his little volume consists of a series of lectures originally published in the *Virginia Medical Monthly*. The apology given for their production in their present shape is the fact that they present some points not included in the other work and that their "methods of general faradization and central galvanization" are not adequately presented in other small volumes.

The book is divided into seven chapters on the following subjects: (1) Electro-physics; (2) Electro-physiology; (3) Electro-diagnosis; (4) Methods of Application; (5) Apparatus for Electro-therapeutics; (6) Treatment of Special Diseases; (7) Electro-surgery. An appendix gives the clinical history of a case of nervous dysmenorrhœa successfully treated by local galvanization followed by general faradization.

To those who aim to keep up with the advance of this branch of therapeutics, the present contribution will be acceptable and prove instructive and profitable.

S. S. H.

*On Diseases of the Abdomen, comprising those of the Stomach and other parts of the Alimentary Canal, Œsophagus, Cæcum, Intestines and Peritoneum.* By S. O. Habershon, M. D., London, F. R. C. P.; Senior Physician to and late Lecturer on the Principles and practice of Medicine at Guy's Hospital, etc. With illustrations. Second American from the Third Enlarged and Revised English Edition. 8vo., pp. 554. Philadelphia: Henry C. Lea, 1879. From Armand Hawkins, Bookseller, 196½ Canal street.

The usual division into subjects according to the anatomical structure affected is adopted, in preference to following the pathological conditions, and strictly surgical affections are not included. Cholera and Typhoid Fever are also excluded, as being diseases which impress the general system.

The different subjects are illustrated by 192 clinical records of cases, which throw light on both the history and morbid anatomy of fatal cases.

We have not room for an extended notice of this work, which is indeed too long and favorably known to require it; but we find the author's views on the proper treatment of intestinal obstruction so much at variance with general practice, and yet withal so rational, that we present a short extract.

"Of the opiate plan of treating intestinal obstruction too much cannot be said. It has both reason and experience on its side; and yet in the reports daily given of such cases, purgatives form generally the early part of the treatment; and they are persevered in until the stomach will bear them no longer, serving only to exhaust the patient and to increase the symptoms. This case also shows the importance of abstaining from food, which not only distends the bowel, but increases the peristaltic movement and augments the pain."

The literature of our profession has attained such rankness of growth that it is out of question to compass the principles and practice of physic in a single volume. Monographs are multiplied, and matter is drawn out to the extreme of attenuation. In this volume we are glad to observe a conservative tendency, recognizing the inevitable in division into branches, but preserving enough variety in subjects to admit of some display of system. We therefore conclude that the book is legitimate in conception, and can honestly testify to the good character which it has gained as being well deserved.

A full index and a table of contents render its consultation easy, and its mechanical execution sustains the reputation of its publisher. S. S. H.

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*A Manual of Examination of the Eyes—A Course of Lectures delivered at the "Ecole Pratique."* By Dr. E. Landolt, Directeur-Adjoint of the Ophthalmological Laboratory at the Sorbonne, Paris. Translated by Siran M. Burnett, M.D., Lecturer on Ophthalmology and Otology in the Medical Department of the University of Georgetown, D. C., etc. D. G. Brinton, Philadelphia, Publisher.

These lectures deal almost exclusively with the *Diagnostic* part of Ophthalmology; and in them the student is gradually led from point to point in the examination of the eye until he is at last brought face to face with the more difficult subjects of Refraction and Accommodation, Ophthalmoscopy, lesions of the Retina, etc.: all of which subjects are explained clearly and forcibly.

Due respect is paid to the use of the ophthalmoscope, an instrument which, in the author's opinion, must at no distant day stand side by side in importance, from a diagnostic point of view, with the stethoscope and the clinical thermometer.

The earlier chapters are occupied by a practical account of all the various modes of forming a diagnosis from external examination, and are full of new and interesting material; and although the explanations are necessarily concise, the facts are in nowise crowded together; the language is plain, the illustrations graphic, and the clinical examples easily understood.

Of these first chapters one of the most interesting is that which treats of the substitution of the new metrical system for the old one in the matter of oculist's trial glasses, a change which was decreed by the last International Ophthalmic Congress, which assembled at Brussels in 1875, and which so greatly simplifies this hitherto complicated and unsatisfactory subject, and renders it for the first time uniform for all nations.

The last half of the book is devoted to a variety of subjects, chief among which are Ophthalmoscopy, and the sensibility of the Retina to Colors—a very important matter in various departments of business. Much that refers to the perception of colors is new and original, the author laying great stress

upon the *prognostic* significance of the appreciation or non-appreciation of the various colors of the spectrum.

Dr. Landolt concludes from his observations in this direction, observations that bear the stamp of originality, and do credit to his industry and ingenuity, that the sensitiveness to colors possessed by the *peripheral* portions of the Retina has a very great prognostic value in many, if not in all diseases of the Optic Nerve, no matter what their causes may be. Want of space, however, forbids our entering more fully into this most interesting and novel subject of investigation. H.

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*A Clinical Treatise on Diseases of the Liver.* By Dr. Fried Thiod. Frerichs, Professor of Clinical Medicine in the University of Berlin, etc. In three volumes. Translated by Charles Murchison, M.D., F.R.C.P. "Wood's Library of Standard American Authors." Wm. Wood & Co., New York. Armand Hawkins, 196½ Canal street.

The names of Frerichs and Murchison have been so long and favorably known to the profession in connection with investigations on diseases of the liver, that the simple announcement of the republication of the work under consideration will be enough to insure its finding a place in the library of the physician, and we must congratulate the publishers on their choice in presenting such a work to the medical public in such a cheap and convenient form. Wood's Library of Standard Medical Authors should have the support of the medical profession, for, judging the future by the past, we feel convinced that when the twelve volumes are complete, no purchaser will fail to congratulate himself on the judicious expenditure of twelve dollars.

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*The Diseases of Live Stock and their Most Efficient Remedies.* By Lloyd V. Tellor, M.D. Philadelphia: D. G. Brinton. 8vo., pp. 469. Price $2 50.

A plain untechnical treatise on the diseases of horses, cattle, sheep and swine—the work of a physician brought up on a farm. It is thorough enough to meet the wants of the physician, yet so simple that the farmer will find it comprehensive and valuable.

*A Manual of Physical Diagnosis.* By Francis Delafield, M.D., and Charles F. Stellman, M.D. New York: Wm. Wood & Co. New Orleans: Armand Hawkins, 196½ Canal street.

The work before us bears evidence of a desire to "do the handsome" towards students and physicians, and the superb make-up of the book is a credit to artistic skill. The plates, especially the one with super imposed colored pieces of paper, certainly exercised the ingenuity of their author.

Unfortunately the work is too bulky to ever become a hand-book for students, like the little work of Flint, and for the medical teacher it is superfluous.

In definitions of certain normal sounds over the thorax and abdomen we think laws of acoustics should have been given and the physiological explanation carried farther. This having been done, and synonyms having been more carefully studied, we would not have had the fact asserted that the quality of pulmonary resonance is "pulmonary," or that the quality of tympanitic resonance is "tympanitic."

The work, however, does abound in many good qualities, and some of the definitions and descriptions are all that can be desired.

The publishers have done very creditable work, and the printing, binding and paper illustrate to what degree of success Messrs. Wood & Co. have carried their art.

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*A Treatise on Practical Surgery, including Surgical Dressings, Bandaging, Ligations and Amputations.* By Prof. J. Ewing Mears, M.D. Containing two hundred and twenty-seven illustrations. Published by Lindsay & Blakiston, of Philadelphia. Armand Hawkins, No. 196½ Canal street, Agent.

This work is admirably adapted not only as a text-book for students, but the thorough and systematic consideration of the subject constitutes it a valuable aid to the general practitioner.

A minute description of the details under each head are appropriately considered, as for instance:

(1) Surgical Dressings—the materials used.

(2) Bandages—the variety and modes of application.

(3) Ligations—methods of holding instruments; making incisions; relation of vessels; closing wounds.

(4) Amputations—instruments; method of controlling hæmorrhage; different methods of amputations; general rules to be observed; special amputations.

The work is thoroughly practical, exceedingly complete, and will be found of great service to the profession. J. M. W.

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*Ophthalmic Out-Patient Practice.* By Charles Higgens, F.R.C.S. 2d edition. Philadelphia: Lindsay & Blakiston. 1879.

The exact object of this little work it would be difficult to determine from a scientific point of view.

That it is not a treatise for ophthalmologists is most obvious; that it does not fulfill the needs and demands of the general practitioner is equally obvious.

If written for the general reading public, it fails still more to meet the object. The most reasonable supposition is that it has been written for the general practitioner, as there is too little of anatomy, physiology and hygiene to be profitable to the general public. In these respects it is in strong contrast with the work concerning which a few words succeed this criticism, and which is one of a series of "American Health Primers."

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*Hearing and How to Keep it.* By Burnett.

This is one of a series entitled "American Health Primers," and is evidently intended to instruct the general reader in some degree in the Anatomy, Physiology and Hygeine of the Ear.

This object is very well executed, and there is no endeavor to make "every man his own aurist;" but the author adheres strictly to his proper relation to the general public as a teacher of fundamental facts, a general knowledge of which is greatly important to all.

For obvious purpose it is in strong contrast with the work above noticed on the Eye, and, while some may object to it as being a method of advertisement, yet it is so entirely different in its methods from those of "irregular practitioners" in treating of disease, that we can dismiss this objection without further comment.

*Demonstrations of Anatomy:* Being a Guide to the Knowledge of the Human Body by Dissection. By George Viner Ellis, Emeritus Professor of Anatomy in University College, London. From the eighth and revised English edition. Illustrated by two hundred and forty-nine engravings on wood. Philadelphia: H. C. Lea. New Orleans: Armand Hawkins, 196½ Canal street. 8 vo., pp. 716.

This work on topographical anatomy presents to the student in the only logical manner possible, a full course of anatomical study, arranged in a most natural plan, taking up structures as they are met with under the knife; the routine system of committing to memory structures which belong to each order is replaced by the study of each tissue as it is met with in the course of dissection, and the relationship of nerves, vessels, etc., is described with special view to the surgical bearings of the part.

Regional anatomy is therefore fully taught, but besides all this, at the conclusion of the study of a portion of the body, as head and neck, upper extremity, etc., the author has arranged a table showing at a glance the origin, branches and distribution of the arteries and nerves.

We cordially recommend the work.

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*Hints in Obstetric Procedure.* By William B. Atkinson, A.M., M.D., Physician to the Department of Obstetrics and Diseases of Women, Howard Hospital, Philadelphia, etc. Pp. 121. 12mo. Philadelphia: D. G. Brinton. New Orleans: Armand Hawkins, 196½ Canal street.

Dr. Atkinson deserves and must have the thanks of the profession, for the conscientious manner in which he has taken hold hold of a subject till now almost neglected. Those "little things" that afford the lying-in woman comfort have never been given the prominence they deserve, and the minute instructions in regard to the child should be carefully studied by the young practitioner. The little work is heartily recommended. It naturally takes its place by the work of Andrew Combe on "The Management of Infancy," and the physician's library is incomplete without both.

# Books and Pamphlets Received.

*Pott's Disease; Its Pathology and Mechanical Treatment, with remarks on Rotary Lateral Curvature.* By Newton M. Shaffer, M.D., Surgeon in charge of the New York Orthopœdic Dispensary, Orthopœdic Surgeon to St. Luke's Hospital, New York: G. P. Putnam's Sons, Publishers, 182 Fifth Avenue, N. Y.

*Pocket Therapeutics and Dose Book, with classification and explanation of the action of Medicines; Index of Diseases, with appropriate Remedies; Classification of Symptoms; Poisons and their Antidotes; Useful Hints to the Prescriber.* By Morse Stewart, Jr., B. A., M.D., Detroit, Mich.

*Ninth Annual Report of the New York Ophthalmic and Aural Institute, New York, for the year ending December* 31, 1878.

*Yellow Fever; Its Origin and Relation to other Malarial Fevers.* By J. G. Westmoreland, M. D., Atlanta, Ga. Reprint from Transactions of the Medical Association of Georgia.

*Chloral Inebriety; Read before the Kings County Medical Society, April* 15, 1879. By J. B. Mattison, M.D., Brooklyn, N. Y.

*Thirty-third Annual Announcement of Starling Medical College, Session of* 1879-'80.

*How to Elevate the Standard of Medical Education and Medical Teaching.* By A. B. Cook, A.M., M.D.; Professor of the Science and the Art of Surgery and Clinical Surgery in the Kentucky School of Medicine; Professor of the Science and Art of Surgery and Clinical Surgery in the Louisville Medical College. Reprint from the American Medical Bi-Weekly, April 26, 1879.

*Circulars of Information of the Bureau of Education No.* 1, 1879; *Training Schools for Nurses.* Issued by the Department of the Interior, Washington, D. C.

*Transactions of the Detroit Medical and Library Association, April,* 1879.

*The Therapeutical Society of New York.* Reprint from the New York Medical Journal, March, 1879.

*On the Permanent Removal of Hair by Electrolysis.* By George Henry Fox, A. M., M.D., New York. Read before the Medical Society of the State of New York. Reprint from the Medical Record. March 22, 1879.

*The Difficulties and Dangers of Battey's Operation.* By George J. Engelmann, M.D., Fellow of the American Gynecological Society, Fellow of the London Obstetrical Society, Consulting Surgeon to the St. Louis Female Hospital, etc. Extracted from the Transactions of the American Medical Association.

*How Shall the Degree of Doctor of Medicine be Conferred?* By E. Fletcher Ingals, M.D., Lecturer on Diseases of the Chest and Physical Diagnosis, and on Laryngology in the Post Graduate Course, Rush Medical College, etc., etc. Reprint from the Chicago Medical Journal and Examiner, April, 1879.

*Ophthalmia Neonatorum.* By Richard H. Lewis, M.D. Reprint from the North Carolina Medical Journal, March, 1879.

*Constitution and the List of Members of the American Public Health Association.*

*An Address upon the Life and Character of Lunsford Pitts Yandell, M.D., Late President of the State Medical Society..* Delivered before the Kentucky State Medical Society, at the meeting held in Frankfort, April, 1878.

*University of the City of New York. Medical Department. Annual Announcement of Lectures and Catalogue, Session of* 1879-'80.

*The Medicinal Properties of the Healing Springs, Bath County, Virginia.*

*Capon Springs and Baths, Hampshire County, Virginia.*

# Editorial.

This number of the Journal begins the seventh volume of the new series. We are able to congratulate its friends upon its largely increased, and increasing patronage and

prosperity. During the past year we met with an obstruction to the circulation of the JOURNAL, of a character and to a degree previously unheard of in the Mississippi Valley. We refer to the numerous local obstructions of the mails by inland quarantines, and to the fact that two of our Southern States established quarantines of such severity, that the transportation of mails was interrupted. On this account, the editors were obliged to store away in their room, a large portion of three consecutive issues.

It is extremely unlikely that such an event will again occur, certainly not for a long period of time.

In the first place, the health of the whole country for the first half of 1879 has been unusually good. Some very local epidemics of scarlatina have occurred, and also some of diphtheria; but the aggregate mortality rate of the country will prove to be as low as that of any preceding half year. In the second place, it is a subject affording cause of congratulation to the inhabitants of our Gulf seaboard that yellow fever does not at present show much tendency to spread in those of the West India islands which have the most intercourse with this part of the United States. Undoubtedly it is true, that increased prevalence of yellow fever in countries south of us invariably intensifies our danger to epidemics, and in truth almost always precedes their occurrence here. We should therefore watch for these forebodings of coming storms, just as the residents of the slopes of a volcano may anxiously watch those signals which characterize an impending eruption.

The danger to this country seems now to center in Port au Prince, and principally to threaten New York city. But at that port great vigilance and care are being exercised to prevent its finding a foothold among their population. The horrors of such a calamity can only be conceived by those whose sad experiences have rendered them familiar with the tragic events of sweeping and fatal epidemics. The Northern people are beginning to question and abjure that fallacious teaching which would lull them to unguarded security by affirming that they "were outside the yellow fever zone." Epidemics of a fatal character have reached localities as far north as Boston, and as far south as Buenos Ayres. We should thank that

great politician and astute reasoner, Hon. Mr. Blaine, for raising his voice in the halls of Congress in opposition to ideas of complete security in any part of the United States against yellow fever.

We have in the third place, much to hope for in the future from the recent labors of the National Board of Health in constructing a series of rules for the government of transportation in places attacked by yellow fever or exposed to danger from its existence in contiguous places. We sincerely believe that the enforcement of these, or similar rules, will so lessen danger, that in future we may hope to escape such wide-spread visitations as that of last year.

The convention of railroad and steamboat managers called for July 2, at Memphis, will determine whether these rules will be accepted and enforced by them or not.

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## THE BLANKS OF THE SUPERINTENDENT OF CENSUS.

We hope that every practitioner of medicine who has not been provided with the blank forms for returns of deaths just issued from the census office, will send his address to Gen. F. A. Walker, Washington City. If every practitioner in the United States should obtain and carefully fill and return these forms, the next census reports would contain statistics of inestimable value.

In our next issue we will return to this subject and discuss it more freely.

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It will, no doubt, be gratifying to the readers of the JOURNAL to observe the new dress in which it enters upon the seventh year of its new series. It is an evidence that the publisher appreciates the good conduct, which has elicited such a "reward of merit."

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A little delay in the appearance of this issue is attributable to the extra matter comprised by the Transactions of the State Medical Society. Our patrons will not complain, as they are receiving considerably more than we agreed with them to provide.

## Meteorological Table—May, 1879.

| Day. | Mean Barometer | Temperature. | | | Mean Humidity. | Rainfall. |
|---|---|---|---|---|---|---|
| | | Maximum | Minimum. | Range. | | |
| 1 | 29.98 | 83 | 64 | 19 | 67 | .00 |
| 2 | 30.05 | 75 | 59 | 16 | 82 | .82 |
| 3 | 29.98 | 78 | 58 | 20 | 79 | .00 |
| 4 | 29 93 | 80 | 64 | 16 | 73 | .00 |
| 5 | 29.94 | 82 | 66 | 16 | 78 | .00 |
| 6 | 30.00 | 79 | 67 | 12 | 75 | 1.78 |
| 7 | 30.04 | 74 | 66 | 8 | 73 | .00 |
| 8 | 30.09 | 78 | 64 | 14 | 71 | .00 |
| 9 | 30.18 | 80 | 66 | 14 | 68 | .00 |
| 10 | 30.15 | 79 | 68 | 11 | 55 | .00 |
| 11 | 30.01 | 78 | 64 | 14 | 53 | .00 |
| 12 | 29.94 | 81 | 63 | 18 | 65 | .00 |
| 13 | 29.83 | 82 | 70 | 12 | 63 | .00 |
| 14 | 29.87 | 83 | 69 | 14 | 65 | .00 |
| 15 | 29.82 | 80 | 69 | 11 | 54 | .00 |
| 16 | 29.85 | 81 | 67 | 14 | 59 | .00 |
| 17 | 29.96 | 83 | 68 | 15 | 58 | .00 |
| 18 | 29.98 | 86 | 70 | 16 | 62 | .07 |
| 19 | 29.95 | 85 | 68 | 17 | 64 | .00 |
| 20 | 29.88 | 85 | 69 | 16 | 71 | .00 |
| 21 | 29.80 | 86 | 77 | 9 | 67 | .00 |
| 22 | 29.89 | 81 | 72 | 9 | 67 | .00 |
| 23 | 30 06 | 84 | 71 | 13 | 69 | .00 |
| 24 | 30.18 | 81 | 73 | 8 | 68 | .00 |
| 25 | 30.13 | 81 | 67 | 14 | 61 | .00 |
| 26 | 30.10 | 81 | 67 | 14 | 59 | .00 |
| 27 | 30.15 | 83 | 68 | 15 | 63 | .00 |
| 28 | 30.09 | 85 | 66 | 19 | 66 | .00 |
| 29 | 29.99 | 85 | 68 | 17 | 72 | .00 |
| 30 | 29.97 | 82 | 72 | 10 | 80 | 1.05 |
| 31 | 30.00 | 82 | 74 | 8 | 77 | .91 |
| Mean.. | 29.989 | 81.2 | 67.8 | 13.4 | 67.5 | 4.63 |

## Mortality in New Orleans from May 25, 1879 to June 22, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| June 1.. | 0 | 2 | 11 | 0 | 7 | 104 |
| June 8.. | 0 | 0 | 13 | 0 | 3 | 88 |
| June 15.. | 0 | 4 | 5 | 0 | 4 | 105 |
| June 22.. | 0 | 6 | 7 | 0 | 2 | 89 |
| Totals... | 0 | 12 | 36 | 0 | 16 | 386 |

## Louisiana State Medical Society, Annual Session of 1879.

ABSTRACT OF PROCEEDINGS.—*(Continued.)*

### NEW PROVISIONS

IN THE INTERESTS OF STATE MEDICINE PROPOSED FOR THE CONSTITUTION OF LOUISIANA.

On April 11, 1879, a committee of the Orleans Parish Medical Society presented to the Louisiana State Medical Society the following recommendations for adoption by the Louisiana constitutional convention of 1879—stating that these recommendations had been revised by and had received the hearty approval of every lawyer to whom they had been submitted; among these lawyers there were four of the most eminent judges and jurists in the State. That the only discouraging criticisms made were:

That these recommendations could be provided for by the Legislature, and that they were at least fifty years in advance of public opinion in Louisiana. In reply to these objections it was urged that the recent constitutions of Texas, North Carolina, etc., presented precedents justifying the adoption of these recommendations by Louisiana; and that if embodied in our constitution public and legislative opinion would be thereby solicited to, and so gradually enlightened upon these important interests of the people. After due consideration these recommendations were indorsed unanimously and emphatically by the Louisiana State Medical Society, which further resolved that an Auxiliary Committee be added to the Standing Committee of the Society on State Medicine, for the purpose of urging these recommendations on the constitutional convention.

Dr. S. E. Chaillé, of New Orleans, was appointed chairman of the Standing Committee, Dr. John P. Davidson, of New Orleans, chairman of the Auxiliary Committee, and the recommendations are as follows:

TITLE—STATE MEDICINE.

ART. —. The Legislature shall provide for the interests of State Medicine in all its departments; for public hygiene or preventive medicine; for medical education; for institutions for the sick and infirm, and for medical jurisprudence; for the establishment and maintenance of a State Board of Health and Vital Statistics for the whole State, with parish or municipal boards subordinate thereto; for the protection of the people from all contagious and infectious diseases, and from all pre-

ventable causes of disease and death; for the protection of the people from unqualified practitioners of medicine, surgery, midwifery, pharmacy and dentistry; for the maintenance of the University of Louisiana, and its three departments of literature, medicine and law; for the care, education and maintenance of the destitute, sick and afflicted, of the blind, of mutes, of idiots and feeble-minded children, of the insane and of inebriates, in hospitals or asylums, constructed with proper regard to health as well as comfort and the interests of morality, such institutions being rendered as nearly self-supporting as is consistent with the purposes of their creation; for the protection of confidential communications made by patients to physicians; for preventing the advertisement and sale of all fœticidal drugs or instruments, and of all drugs detrimental to the interests of health and morality; for the adequate compensation of scientific experts in all cases; for the separate trial of criminals alleged to be insane on each issue—first that of insanity—and that adequate time and opportunity shall be given to medical experts to test the question of insanity. No persons shall be allowed to testify as expert witnesses to matters of scientific opinion, except those recognized as competent experts in such matters by their own profession, as organized under the laws of this State. Only qualified practitioners shall be expert witnesses in the courts to medical facts; the legal duties of coroners shall be assigned exclusively to experts in law, and their medical duties exclusively to experts in medicine.

ADDITIONAL INSTRUCTION TO THE COMMITTEE.

If any article of the Constitution of 1879 provides that privileges, to have effect against third persons, must be recorded, the following proviso should be made:

*Provided*, That the fees due physicians and surgeons, the wages of nurses, and the bills of druggists and apothecaries, for professional services rendered, and medicines furnished during the last illness, shall enjoy the privilege conferred by law, even as to third persons, without recordation.

## STATE MEDICINE AND MEDICAL ORGANIZATION.

ADDRESS ON APRIL 10, 1879, BY THE "ANNUAL ORATOR" OF THE LOUISIANA STATE MEDICAL SOCIETY,

STANFORD E. CHAILLÉ, A.M., M.D.,

Prof. Physiology and Pathological Anatomy, Medical Dept. University of La.

"When lone in woods, the cringing savage crept," he could prove how boundless was his liberty, by hands smeared in the blood even of wife or child; but men and beasts as savage and as strong, soon taught the primitive man civilization's first

great lesson, that he could barter part of his liberty in exchange for greater security to property and life, by submitting with his brothers to the rule of a patriarch. Like causes forced these patriarchs, combining many families into one tribe, to yield submission to a common chief; and, progress continuing, these chiefs were forced, combining many tribes into one nation, to give allegiance to a king. Wherever social order has been secured and civilization developed, men have been forced in larger and larger masses to unite, have overcome obstacles in proportion to the strength of their union, and this strength has been proportionate to the intelligence and self-denial of the units; for, although self-interest has organized every nation, as well as every union, yet, if these triumph permanently, the self-interest must be sufficiently enlightened to comprehend that the individual's welfare depends on the general welfare, and sufficiently ennobled to sacrifice the good of one—even of one's self—to the good of many.

If the making of a nation thus depends on the union of larger and larger masses of men, its maintenance and progress are not less dependent on the redistribution of its united citizens into new co-operative groups—groups which multiply as civilization increases the interests of the nation and the occupations of its citizens. Every nation is forced to distribute its citizens in many different groups; some must wield the sword, others carry it purse and others balance its scales of justice; while even those citizens left by government undistributed, find their highest welfare in organizing voluntary associations. Every great private as well as public enterprise—whether in agriculture or commerce, in manufactures or mining, in politics or religion, in literature or art, in education or science—depends for success on co-operation, and on the strength of the bonds linking each unit to the whole. In fine, the history of civilization proves that man "can only make progress in co-operative groups," and that enlightened self-interest is their organizer.

This effort to enforce the trite and briefer lesson, "in union there is strength," would not have been made, except for the reasons that, while physicians have, with unanimity, constantly complained of the many and manifest defects in our laws, relative to medical matters, few have seemed to appreciate that these defects necessitate, for their correction, an efficient organization of the medical profession: and still fewer have been willing to make the sacrifices necessary to secure such an organization. If to complain of evils without an effort to correct them is childish; if to know the remedy and not strive to apply it is folly, then the medical profession is lacking either in manly enterprise or in an intelligent appreciation of the importance of associated action and of the means to effect it. Therefore, the all-important problem to be solved by us, pioneers in organizing in one society all reputable members of the regular medical profession in Louisiana, is, what can we, only a small part of the whole, do to gain our first great need,

which is, to bind in one co-operative group all the physicians of this State?

Manifestly we should appreciate the obstacles to success, and should ourselves not only understand, but should also force our professional brethren to understand, what good we would and could accomplish if their indispensable aid were given in securing union of the medical profession. To some of the obstacles to be encountered, to some of the benefits to be conferred, your attention is solicited.

History furnishes an instructive warning. The first "Louisiana State Medical Society" was organized in 1849, under auspices like those which originated its successor, this society; for the project was initiated by a country society,* and accomplished by the aid of the physicians of New Orleans. From birth its life was feeble, and, remaining in spite of its title a mere city society, it, after six years, died of "absenteeism due to the indifference and apathy of the country parishes." Effort must be made to understand the causes, if we would correct them, of that professional apathy, indifference and absenteeism, not only of the country but also of the city, which destroyed the preceding, and threaten the success of the present State Medical Society.

The history of the thirty-seven State Medical Societies in the present thirty-eight States proves that the relative prosperity of these depend largely on the number of physicians, the number of miles of railroad, and the density of population (especially near to the railroad lines) in the State. A fair comparison as to these three particulars shows that Louisiana, outside of New Orleans, stands at greater disadvantage than any other States except Colorado, Florida, Nebraska, Nevada and Oregon. The tax on the time and money of the traveler, from parts of this State to New Orleans, is as great as from this city to New York, and yet there is no point in the State which presents for concentrating an assemblage, traveling facilities comparable with those to New Orleans. City members can do nothing to diminish the tax on the time, but ought they not to do all they can to diminish the tax on the money of the country members? In any case, the progress of our two railroads to Texas justifies strong hopes of the greater success of this Society on their completion.

Comparison further proves that, with few if any exceptions, the most prosperous State Medical Societies have owed their permanent success, some of them their origin, to the fostering aid of their legislatures, by which they have been chartered, authorized to examine and license, and in various other ways assisted. Experience justifies the belief that, while State Legislatures heed but little the often dissentient voices of physicians representing a few scattered localities, important

* In 1849 by the "Attakapas Medical Society" and the "New Orleans Physico-Medical Society," in 1878 by the "Plaquemines Parish Medical Association," and the "Shreveport Medical Society."

privileges and powers would be granted to even a majority of the profession if united in a State Medical Society. Every increase of privilege and power tends inevitably to increase the membership and influence of a Society.

Another serious obstacle to our success is presented by the deplorable facts that in this State about one-sixth of the white and seven-eighths of the colored voters—in fact, more than half of all the voters—"cannot write their names." Ignorance spreads a pall of indifference and apathy far beyond itself. Men generally, even intelligent and ambitious physicians, strive rather for relative than for absolute superiority, and are prone to become content when manifestly superior to their associates, even if these "cannot write their names." Hence the education of every citizen, black as well as white, is of infinite importance to the success of this Society, as of every other interest of the State.

All the facts now enumerated tend to produce that vital defect—paucity of members—from which ensue too little professional interest in the Society's action to stimulate the members to such labor as would render their sessions practically useful and attractive; too little power to enlist, as power always does, new adherents; and too little money to discharge the duty, most essential to the success of every scientific society, the publication and dissemination of useful knowledge. An annual income of only $1000, expended in judicious publications, would rapidly increase both our membership and the value of our publications. It, however, must not be forgotten, that while the dissemination of knowledge is our chief road to success, revenue and publication are also two rocks on which many medical societies have been wrecked, and require for their beneficent disposal the utmost caution and discretion.

But the greatest obstacle to our success, the one to which all others are subordinate, is the inappreciation by physicians of the great benefits which would accrue to them, and at the same time be conferred on the people, by union of the medical profession. To illustrate these benefits, and also to prove that an efficiently organized medical profession could secure them, are the chief objects of this address.

You will not forget that this society has publicly declared that "the inauguration and promotion of State Medicine is a subject of unequaled importance to the material welfare and happiness of the people," and that this great subject was the most important consideration prompting its organization. Then surely we ourselves should clearly understand and enable all others to understand what is State Medicine in general and in its details.

The adjective-noun being used generically, as in statecraft and statesmanship, *State Medicine is the application by the State of medical knowledge to the common weal, and embraces every subject for the comprehension of which medical knowledge, and for the execution of which the legislative and executive authority*

*of the government are indispensable.* Its bounds are necessarily as limited as may be the authority of the government, so that, in the United States, State Medicine is restricted, as to our national government, within very narrow bounds, within even narrower bounds than as to our county and municipal governments, while our State governments have ample and undisputed authority over each of its four great subdivisions, viz: Public Institutions for the sick and the infirm, Medical Education, Medical Jurisprudence, and Preventive Medicine or Public Hygiene.

Are these vital interests of the people, of whom we are an integral part, worthy the consideration of our profession, the only class of the people now able to appreciate their importance? Or does it happen that the laws of Louisiana are on these subjects so enlightened that we can with quiet conscience refrain from efforts for reform? In truth, many States are far in advance of Louisiana, and it is those farthest to the front which resound the loudest with the incessant cries of our brothers for additional progress. No physician whose heart vibrates in response to human suffering and whose brain is sufficiently enlightened to appreciate State Medicine, can possibly submit apathetically, indifferently and without effort to the many remediable evils which beset us. An enumeration of, with comments on, the various subjects which belong to each one of the four great branches of State Medicine will suffice to remind you what are some of these evils and some of the defects of our laws.

### PUBLIC INSTITUTIONS FOR THE SICK AND THE INFIRM.

No State has yet perfected its laws for the organization and support of its hospitals, dispensaries, infirmaries and sanitaria; of its asylums, which should be *educational* as well as medical, for idiots and feeble-minded children; of its asylums for the blind, for mutes, for the insane and for habitual drunkards.

When will Louisiana have such a General Hospital as has Massachusetts, so excellent that even the wealthiest and the worthiest of the State seek its pay wards for their own relief? When will Louisiana have an asylum, both educational and medicinal, for its idiots and feeble-minded children, such as has New York?* When will Louisiana make such provision for its insane that tender hearts will cease to be shocked by the woful reports of grand juries and boards of administrators? And when will this State aid in rescuing thousands of wives more wretched than widows, thousands of children more wretched than orphans, from incurable drunkards, by providing such an inebriate asylum, as New York was the first government in the world to establish in 1854? In fine, who in this State is there who has investigated this branch of State Medi-

*Connecticut, Illinois, Kentucky, Ohio, Pennsylvania and perhaps other States are reported to have schools for idiots and feeble-minded children, but I do not know whether these are or are not State institutions.

cine sufficiently to report to the people its needs and its defects, with the remedies therefor; and yet, on such reports depend the difference between the cruel suffering and the welfare of thousands of the most unfortunate of all our fellow creatures?

## MEDICAL EDUCATION.

The bliss of ignorance is proverbial, but what man can be content who knows how inadequately medical education is provided for, how deplorably the practice of medicine, or pharmacy and of midwifery is regulated, and how inefficiently the people are protected from the enormous evils to health and life inflicted by adulterated and patent drugs and by mountebank doctors? Louisiana needs, as does every State, better laws, to regulate the practice of medicine, pharmacy, midwifery and dentistry; to establish, organize and govern medical colleges; to encourage and support medical libraries, museums, laboratories and botanical and zoological conservatories; to promote original research; and to facilitate anatomical and other medical studies to the utmost. Except in the last particular Louisiana is inferior to many of the States, none of which can be compared in these particulars with France, Germany or Great Britian; but there is no good reason why we should not at least strive to equal, in all good things, any nation on earth.

Of the various subjects appertaining to medical education, two are now profiting by professional attention, viz: the regulation of the practice of medicine, in order to suppress quackery outside of the profession; and collegiate education with final examination, in order to suppress the same great evil inside the profession. Since these topics, however trite, must be discussed until disposed of by satisfactory action, you will pardon a brief allusion to them.

Although medical literature, including the transactions of State Medical Societies, abounds in discussions, I have searched in vain for a single article on laws to regulate the practice of medicine, in any wise exhaustive, or worthy of the subject; which serves to illustrate what little attention is yet given to State Medicine. For instance, few of our impatient reformers seem aware that until about 1840, every State then in the Union, except Pennsylvania, Virginia and North Carolina, had had the now much desired Medical Examining Boards appointed in some cases by the Governor, but in many other cases by the regular medical profession itself, through State or county medical societies; and that these boards did not prove satisfactory to the profession, and so unsatisfactory to the sovereign people that their representatives, in nearly if not quite all the States, did, from about 1840 to 1852, repeal or annul all the laws establishing such boards. Surely, if we would profit by the experience of our fathers, it is indespensable for us to know all the causes of their failure, and yet not one of those advocating reform adequately supply this knowledge. Still farther, North Carolina since 1859, and a few other States have on this subject

old laws still unrepealed; and since 1873 at least seven States* have enacted new laws, and yet I have searched in vain for an instructive report as to the comparative merits of these laws and as to their operation, whether satisfactory to both profession and people, and whether likely to be improved by amendments or to be repealed. Surely knowledge of this kind is very requisite to guide us rightly, and to guard us from retarding instead of promoting, the very progress which we seek—an evil which often ensues from inconsiderate legislation.

Some study of the legislative history of this subject justifies the following conclusions and suggestions: It is worse than idle to seek legislation which would debar from practice homœopaths, eclectics or other practitioners of any special or exclusive system of therapeutics, because no such law could be executed, if enacted. Our fathers, as has been stated, had such laws, which were all repealed, for the chief reason apparently that it was attempted to enforce them. Regular physicians enjoy unmolested their system of practice and their code of ethics, and experience proves that the public intend to maintain an equal right to test the demerits of other systems and codes, and to leave error free in its combat with truth. This resolve is implanted so deeply in the hearts of our voters that Texas has enthroned it in her constitution, which solemnly declares that "the Legislature may pass laws prescribing the qualifications of practitioners of medicine in this State, and to punish persons for malpractice; but no preference shall be given by law to any school of medicine." If therapeutic systems were disregarded, we could probably induce the people to protect themselves from unscrupulous medical tramps and ignorant adventurers by laws prescribing that no person, unless found qualified by education, shall practice medicine; but then arise these, as yet, unsolved questions: By what method shall the qualifications necessary be determined, and by what means shall the penalties for the violations of the law be enforced? Having no confidence in the discharge of laborious official duties by voluntary and unpaid officers, I find no answer to these questions except in adequately paid officials, whom it is not probable any legislature will grant for many a day to come.

The ripest civilization, from which we, with like language, laws and institutions, can gather fruitful lessons, is that of Great Britain, and I believe that our road to progress in this subject of State Medicine, as in many others, is by the path "blazed" by the British Parliament. The British Registration Law of 1858 is reported to have operated admirably. It is executed by a "General Council of Medical Education and Registration," composed of twenty-four officers designated by law, and paid—paid, as I infer, by the British Medical Association. It is based on the principle "that it is expedient

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* Alabama in 1877, California 1876 and 1878, Indiana 1879, New Hampshire 1875, New York 1874, Texas 1873 and 1876, Vermont 1876 and 1878.

that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." Those whom we designate irregulars are, if found qualified by the council, registered equally with regulars. Fraudulent registration is liable to severe penalties. No physicians, except those registered are recognized by the courts; are exempt from jury and militia duty; and enjoy the right to practice and collect fees, to sign legal certificates, to testify in courts as experts, and to serve as medical officers in the army, navy, and civil service. Such is the pith of the only law ever yet enacted on this subject by any English-speaking people, which, tested by experience, has proved worthy of our imitation.

Louisiana has had, since 1861, a registration law*—poorly devised, inefficiently executed—but will it not furnish an entering wedge to progress, and ought we not to direct our efforts to amendments of this law? And ought we not also to seize some one of the many opportunities presented to test on medical impostors the value of that act of 1872 and 1879,† which declares: "Any physician, or pretending physician, who shall falsely pretend to have been a professor of any medical college, or to hold literary or professional titles to which he is not entitled shall be forever barred from the right to practice medicine in this State, and on failure to supply evidence to substantiate any claim to such title by proper diploma or other documentary or satisfactory evidence, shall, on conviction, be imprisoned in the State Penitentiary not less than six months or more than five years." The fact that out of 270 practitioners of medicine now in New Orleans ninety-three of them are, as is reported, irregulars or quacks, should stimulate us to efforts for reform.

As to the subject of collegiate instruction with final examination, it is unnecessary to detail the numerous expedients which have been adopted or are now under discussion to promote progress in this direction, nor will it be denied that some of these are calculated to palliate present evils; but the only effectual remedy, in my opinion, is the total divorce of medical instruction from the right to confer a diploma, which of itself confers the legal right to practice medicine. The professors of a medical college should not constitute a legalized Board of Medical Examiners; but it must not be forgotten that to annul this power in one State might now destroy any unendowed medical institution of such State, so that action seems dangerous until at least a majority of those States which have prosperous medical colleges can be induced to coöperate.

## MEDICAL JURISPRUDENCE, OR FORENSIC MEDICINE.

Neither Louisiana nor any other State can challenge intelligent approval of their laws on the following subjects:

*See sections 2677, 2678, 2679 Revised Statutes of Louisiana, 1870.

†See the final clause of the seventeenth paragraph of Act No. 14, page 51, Acts of 1872, repeated on page 43, Acts of 1879, sixteenth paragraph of section 1, Act No. 27.

*Medical Witnesses.*—In at least three particulars the laws generally are defective; for they fail to adequately provide competent physicians to act as ordinary witnesses to medical facts, such as are derived from professional examinations; they fail most grossly to provide that expert witnesses to medical opinions shall be furnished solely by veritable medical experts; and they fail to provide adequate compensation for medical experts. Further, the laws are defective as to the insane, to inebriates, to poisoning, to infanticide and criminal abortion,* to the viability of the new-born infant, to protection of confidential communications by a patient to his physician, and to malpractice. A brief consideration will be given such of these subjects as are now exciting medical discussion.

In some of the oldest and most densely inhabited States, where are invariably developed evils unknown in States sparsely populated, malicious suits, professedly for malpractice, but really for blackmail, have grown to such an evil, that in 1878 the Maine Medical Association resolved "that, with the existing laws on civil malpractice, it is unsafe to practice surgery among the poor." Apparently, out of 600 physicians in the State, 125 have been prosecuted. The legal remedy sought for is, "bonds compelling the plaintiff, in case of defeat, to pay the taxable costs."† Other societies have recommended that all suits for malpractice should be tried by a special jury of physicians.

From the same class of States the report is often repeated that criminal abortion is constantly and alarmingly increasing. A member reported to the Maine Medical Association that the cases annually were not less than two thousand, while a member of the Wisconsin State Medical Society reported in 1870 that no physician would dispute that, "where one living child was born into the world, two are done away with by means of criminal abortion." Most medical societies demand better laws, but others report that the evil in their States is due, not to the laws, but to their inefficient execution; and, in confirmation of this, the report from Maine is that "it is impossible to get an attorney to prosecute, or a jury to convict, an abortionist."

Defects of the laws as to the insane are to be found in every State. Though numerous and grave, allusion will be limited to two of these defects. In some of the States, while the alleged insanity of a criminal, and of a dead man who has left a will, must be decided by a jury, yet one or more of such doctors, as the laws so loosely recognize, can issue a certificate which will consign an innocent living man to an insane asylum, which to him is virtually a penitentiary. It is believed that as

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* The laws of some States still bear the impress of barbarous origin, in regarding only the "quick child," (Miss., Mo., and no doubt others), as a living human being; and in selecting a jury of old women to determine any question as to the pregnancy of a criminal.

† Me. Med. Assn. Trans. 1878 and specially the excellent article of Dr. Sanger.

yet Maine, New York and Wisconsin* are the only States which have provided wisely for the trial of criminals alleged to be insane.

The question, whether a court can force a medical expert to testify without securing him adequate compensation, has in recent years excited so much interest that medical societies have even resolved to raise the issue and force the courts to a decision. This was done in Indiana, and the following facts are pertinent to this question. English courts have decided that a scientific expert need not attend a subpœna, that his testimony cannot be forced, and that he must be compensated. In 1877 the Supreme Court of Alabama decided to the contrary; but, also in 1877, a circuit court of West Virginia concurred in the English view; in 1878, Judge Clark, in the case of the "State of Texas vs. Jasper Weathers," decided that he "knew of no law to force a physician to attend court, and testify as an expert, without compensation;" and, also in 1878, the Supreme Court of Indiana, reversing the decision of a lower court, maintained the expert's right to compensation.† The Iowa Code of 1873 (and probably the laws of some other States) wisely provides that "witnesses called to testify only to an opinion, founded on special study or experience in any branch of science, or to make scientific or professional examinations, and to state the results thereof, shall receive additional compensation, to be fixed by the court, with reference to the value of the time employed, and the degree of learning or skill required." This law grants all the medical profession demands.

Questions, however, referring to expert medical evidence, far more important than this to justice and to the interests of the people, are—whom should the law recognize as experts, how should these be selected, and how should their evidence or decision be rendered? In this matter the laws which, when first enacted, may have been justifiable or excusable, have now, in consequence of the vast progress of medical science, become a mere mockery of justice. In proof of this I will repeat‡ here that which I intend to repeat on every appropriate occasion—that, "as a general rule," it has been adjudged by the State courts of this country that any practitioner of medicine (that is, any man who dubs himself doctor) has sufficient knowledge of medical science to furnish justice with its "best attainable evidence;" and that, as results of our laws, "the power of medical science, crippled at the coroner's inquest, is prostituted by the partisan opinion of incompetent experts, then perverted by advocates, and at last, when emasculated of all vigor, is submitted for decision to those unable to estimate its weight."

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* See Chapter 191, Revised Statutes of Wisconsin, 1878.

† See two excellent articles on "The Medical Witness," by Dr. W. Hobbs. Trans. 1877 and 1878, Indiana State Medical Society.

‡ See Author's Address on Medical Jurisprudence, "Trans. International Medical Congress," Philadelphia, 1876.

I cannot leave this subject of medical witnesses, without recording the greatest triumph yet accomplished by American Medical Jurisprudence, a triumph which, on this subject, places Massachusetts in advance of every English-speaking people. For, of these, all others still maintain that insult to medical, as it is to legal science, the medico-legal office of coroner; who, common sense dictates, should be both a medical and legal expert, but whom our medieval laws encourage to be neither. Louisiana makes herself, in this matter, exceptionally ridiculous by enacting the superfluous negation, "that it shall not be necessary that he (the coroner) shall have had a medical or surgical education, or have been a regular practitioner of either branch of science."* On the other hand, Louisiana has wisely required from every coroner an annual statistical report to the General Assembly, but though such a consolidated report would prove extremely instructive, and tend, as it has done in England, to destroy all respect for the coroner's office, who ever saw such a consolidated report, or ever heard of the execution of this law!† But, returning to the instructive example of triumphant progress, permit me to report, that on October 4, 1876, at a stated meeting of the councillors (delegates) of the Massachusetts Medical Society, it was "voted that a committee of five be appointed, to take into consideration the defects of the present laws relative to the appointment and practices of coroners, so far as these defects involve the medical profession, and to report at the next meeting what action, if any, is desirable." At the next meeting, February 7, 1877, this action was strengthened; and at the annual meeting, June 12, 1877, the committee reported that it had "met with speedy and remarkable success." In fact on May 9, 1877, the Governor had approved "an act to abolish the office of coroner, and to provide for medical examinations and inquests in cases of death by violence." The pith of this law is as follows: While coroners have been required in Massachusetts—as they now are elsewhere—to discharge the incompatible duties of medical examiner and judge—that is, of an expert medical witness and of an expert judge of law—Massachusetts has now divorced this ill-assorted union of centuries; has created the "Medical Examiner" for the performance of one duty, and has transferred the other to the judges of the courts, and has specially enacted that "whether a homicide has been committed or not is a medical question, and whether that homicide be the result of accident, or be justifiable homicide, or manslaughter, or murder, is a legal question.

Thus, laws sanctified by centuries of hereditary prejudice and of barbarous precedent, have in Massachusetts, been at last beheaded by the slaughtering axe of common sense, which emphatically claims that the coroner's medical duties should

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* Section 650, Revised Statutes of Louisiana, 1870.

† Section 672, Revised Statutes of Louisiana, 1870

be assigned exclusively to a competent medical expert, and his legal duties as exclusively to a competent legal expert. Hail! to Massachusetts, which heads the cheerful funeral procession to the coroner's grave; the tombstone should have engraved on one face "Monstrum horrendum informe, ingens, cui lumen ademptum"—and on the other, "God hath numbered thy kingdom and finished it; thou art weighed in the balance and found wanting; thy kingdom is divided and given to" the doctors and the judges. The results of this novel law, not yet perfected by experience and already once amended, are more harmonious, successful and economical than the results of the antiquated laws repealed, and an active Massachusetts Medico-Legal Society has been stimulated into existence.

As no science is more progressive than medicine, so on no men, more than on physicians, is it oftener and more incumbent to "honor him to whom honor is due." Theo. H. Tyndale, Esq., of Boston, is, I am assured, the enlightened operator who, subjecting his patient, the Massachusetts Legislature, to judicious preparatory treatment, met with "speedy and remarkable success" in the unprecedented operation of excising this foul tumor from the body politic. If a surgeon, by accident or skill, succeeds in a hitherto unsuccessful operation, the plaudits of the profession reward him, even though the operation be not calculated to confer a fraction of the benefit which will ensue from that operation, which by the advice and aid of the Massachusetts Medical Society, was performed by Mr. Tyndale. That both operation and operator are so little known to and honored by the profession, proves again how little real interest is taken in State Medicine. That both may be better appreciated, it should be known that since 1875, if not longer, the British Parliament, prompted by the British Medical Association, has fully recognized the disease and has agreed to operate, but has not yet been able to decide upon the mode of operation. Mr. Tyndale's method is, however, as eminent for its simplicity as for its success. Yet a Louisiana legislature could not apparently now adopt it, since Article 93 of the Constitution of 1868 requires that coroners "shall be elected," etc.

### PREVENTIVE MEDICINE, OR PUBLIC HYGIENE.

No one of the four branches of State medicine involves the public welfare to so enormous an extent as preventive medicine; a birth of this century, generated by the conviction, forced on us by centuries of experience, that the bounds of curative medicine are very restricted, and that the faith of our fathers in the discovery of an *elixir vitae*, or of a *panacea*, was the baseless fabric of their imaginations. So important is public hygiene that there is in our profession a strong tendency, against which this address is an earnest protest, to consider it synonymous with State medicine, of which it is only a most essential branch. So paramount in importance is public hygiene to the public good, that Dr. Bowditch estimates this country's annual

deaths by preventable diseases to be not less than one-fifth of our million total deaths; while many authorities will concur with me, that an estimate of from one-fourth to one-half would more nearly approximate the frightful truth. Accepting the lowest estimate, experience seems to prove that there are many whose imaginations are too sluggish to respond by action to the dry statistical fact that 200,000 people die annually in the United States by avoidable diseases. It may aid some to realize all that this dry fact implies, if "the mind's eye" conjures up a vast array, the more horrible because avoidable, of unnecessary doctors, nurses, druggists, undertakers, anguished parents, homeless widows and destitute orphans. It implies a great reduction in the normal duration of life, and thereby the loss of inestimable benefits; such benefits as a community would now be deprived of if a large proportion of the men, at present from forty-five to sixty years of age, had been swept into their graves prior to this period of their greatest usefulness. It implies far greater public injury than would result from the diminution of immigration to the extent of 200,000 annual foreign immigrants. And, if the average value of a freeman's life equals $500, or the value of a slave's, and if the time of those sick and attending on the sick has an average value to the community of fifty cents a day, then my dry statistical fact no longer implies but proves an annual national loss by preventable disease and death exceeding $200,000,000! This community painfully realizes its loss by one year's epidemic, but like other communities, it suffers every year as great a loss, which from ignorance and habit it cannot realize. Were our cotton crop destroyed, exchange, forum, press and even the pulpit would resound with lamentations and with active expedients to prevent the recurrence of such a disaster, and yet preventable disease and death annually inflict a damage, which, though unrealized, is very real, greatly exceeding in money value the profits on the whole of our annual cotton crop. Why, in this case, is there neither public lamentation nor action? Because, public teachers have, for many generations, been in the habit of insulting our Creator by attributing to His malevolence evils really due to our own ignorance and to our own filth. Charity cries: "Lord, forgive them; they know not what they do!"

What should the public be incessantly taught? First, the inalienable right of every human being to be supplied with uncontaminated air, water, food, soil and personal surroundings; and the duty of the State to allow no trespass on this right from negligence, ignorance or greed of gain. Secondly, that the causes of many diseases and of many deaths can be as successfully fenced out from their human crop, as domestic animals can be fenced out from a grain crop; and that, as powder and other explosives are by law stored away and guarded, so, as one instance only, a small-pox pustule, potent with greater mischief than a magazine of dynamite should be, for greater

reason, stored away and guarded. And last, but not least, that "public health is public wealth;" and therefore, the public which organizes vigorously and spends money lavishly to vanquish Indian and other marauders, should make as efficient war against conquerable morbific foes, which, though invisible, are more disastrous to both life and property.

After many years of special study each additional year has increased my conviction that wherever social order has been firmly secured by law, there the supreme subject of importance is: *The avoidable causes of disease and death, their extent, cost and influence on morality and human progress.* This subject is so exhaustless, so varied in detail, so fruitful to study and discovery and so little understood by the public that I confess my impatience whenever a physician discourses to a public audience on any other subject; for it has been wisely taught that "the art of politics (an art essential to the progress of State medicine) is to try to get ideas stamped as deeply as possible into, and spread as widely as possible among, the masses." Germane to these views are the glad tidings that on March 31, 1879, the Citizens' Auxiliary Sanitary Association of New Orleans was organized—auxiliary in matters of public health to our public officials. This evidence of non-professional interest in public hygiene is very encouraging, but experience warns us not to be too sanguine, and that it will require at least one year without an epidemic of yellow fever, to test the earnestness and the enlightenment of this association. For, ten years ago, I ventured to warn the public that "every year without a yellow fever epidemic was a year nearer to it," and added that "our press seems now to wait with inactive silence like its patron the public, for another overwhelming pestilence, such as the great epidemic of 1853, which galvanized them into a few *spasmodic* efforts resulting in some ill-digested and worse executed laws, a quarantine satisfactory to neither contagionists nor anti-contagionists, and an impotent board of health utterly powerless to enforce those things needful for the public health." The overwhelming pestilence of 1878 has come and gone; it has galvanized the public into efforts which, it is to be hoped, even the coming year may serve to prove are not merely *spasmodic*, for four of our greatest epidemic years (1839, 1847, 1858, 1867), during the past forty years have not been followed by an immediate successor. Persistence in sanitary reform, in spite of the absence of epidemics, is the only test of the enlightenment of the reformer. In addition to the organization in New Orleans of a Citizens' Sanitary Association, another cause for great exultation is presented in a fact which inspires the hope that the disastrous epidemic of 1878 may yet prove to be an infinite "blessing in disguise." This fact is the recent appropriation (on March 4, 1879), of $50,000 by Congress to establish at last a "National Board of Health." But I have wandered somewhat from my theme, which strictly is, what are the various subjects which belong to public hygiene and require

better laws. The needs of this State and of others will now be indicated.

An efficient State Board, strengthened by auxiliary local Boards of Health and the Registration of Vital Statistics, which includes the registration not only of marriages, births and deaths, but also of prevailing diseases, are fundamental necessities, with which not a single State is as yet adequately provided; and yet some States* have laws on these and other subjects to be mentioned, much superior to those of Louisiana.

Health is preëminently essential to happiness and usefulness, and to guard it some special knowledge is requisite; yet a knowledge of the elements of hygiene—a knowledge much more important and more easily acquired than geography—is so far from being taught in the public schools of the State, that even the teachers know nothing about it.

Purity of air is man's prime requisite, and purity of water is only second in importance; yet not a State has laws adequately providing these, nor to repress the increasing evils of adulterated foods. Insanitary occupations, offensive and unwholesome disposal of the dead, and many other sanitary nuisances receive little attention from either the people or their lawmakers. Every large city has tenement or other crowded houses for the poor, so constructed that it is not possible for the occupants to be either healthy or chaste, and in which children from their birth are seized in the remorseless arms of this age's Three Furies—filth, disease and crime—yet so far are our laws from regulating the healthy construction of dwelling-houses that this is not done even for public edifices; no, not even for the public schools of our children, thus educating them in anti-hygiene.

Not a State has laws encouraging, for sanitary purposes, either drainage or irrigation. Massachusetts in 1849 effected a sanitary topographical survey, which proved of great value, and a second one was in 1875 instituted by New York; but other States have neglected this important matter; and, instead of guiding the immigrants, whom they seek to entice with trustworthy health maps; they supply him with the seductive but false certificates of ignorant residents, who base their worthless convictions on such facts as that they are not dead yet, and that several of them, who, however, never happen to have about them a legal record of the date of their birth, are one hundred and more years old!

Some States have laws to protect property and life from explosive illuminating oils, but, in most of these States as in this, the greed of gain has so emasculated these laws, that property is still endangered, while health and life are sacrificed.

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* Some cities have an efficient registration of vital statistics, except of prevailing diseases; of the States, Massachusetts and Rhode Island have the best.

Bowditch* reports that while eleven States have laws which served to protect one species of four-footed beasts from the "Texas cattle disease," only twelve States have laws to protect the human species of biped from yellow fever, sixteen from cholera, and twenty-one from small-pox. All know how defective, both in the letter and in execution, these laws are as to the preceding and all other contagious and infectious diseases. Thus far, medieval prejudice has defeated all efforts to stamp out syphilis. This dire disease, which afflicts the innocent and the unborn as well as the guilty, is reported to have increased to such extent that its victims are computed to now number as many as one in every twenty of the population. What can be done? I have for years advocated (in my professorial lectures) one measure which should be, and I doubt not will be eventually adopted—a measure which received in 1878 the advocacy both of the President† and of an able essayist† of the Maine Medical Association. The measure thus advocated is the castration, or spaying, not only of the syphilitic, the leper, the idiot, and the habitual criminal—when found guilty of indulging in sexual intercourse—but also of all other persons who would with certainty transmit to their progeny the irreparable curse of a corrupted organization. There is no debt to posterity more obligatory than is this. The laws of our pious grandfathers used this penalty to punish evil-doers who inflicted on society far less evil than do those for whom the resuscitation of this penalty is now advocated.

Such is a brief and partial record of the various subjects appertaining to Public Hygiene, subjects illustrative of the needs of the people, and therefore demanding the advocacy of an organized medical profession. But common sense, discouraged by innumerable evidences of popular ignorance, rudely awakens us from dreams of a sanitary Utopia, and commands us to concentrate our strength on the reforms most practicable and necessary. The reform now most necessary is the establishment of an efficient State Board of Health, having control of an efficient system for the Registration of Vital Statistics. On these two topics some additional information and suggestions will now be submitted.

The value of vital statistics is so little appreciated that the medical profession should familiarize itself with arguments to convince the public of their value, not only in reference to the rights of property and other judicial requirements, but also in reference to their infinitely greater value for sanitary purposes. Public Hygiene derived its birth from and depends for its future progress on vital statistics, and every argument which favors the establishment of boards of health is an argument in behalf of vital statistics, for, while a board of health without

*"Hygiene in America, 1877," a vade mecum of the American sanitarian.

†Dr. Gerrish and Dr. G. F. French. Trans. 1878. Me. Medl. Assn.

them is as helpless as is a man without eyes to guide him, so, without vital statistics the public is destitute of the only valid test of the value of a board of health. If a human being is much more valuable to the State than is a bale of cotton, then statistics of the human crop would prove much more valuable than statistics of the cotton crop, and yet every newspaper can and does furnish statistics as to the cotton crop, such as no man can now anywhere procure as to our human crop. Vital Statistics furnish unerring lessons as to the health, prosperity and morals of the people; they teach the influence of marriage on illegitimacy and morality; the fecundity of the whole people and of the races thereof; the vital force of the children; the duration of life, with its expectation and value, for all ages and races; the influence of meteorology, occupation, locality, in generating disease and improving health, and thereby the removal of unfavorable conditions, always found, even where least suspected; and the approach of morbific storms, by ignorance of which negligent cities and even nations have been destroyed. The only foundation of life insurance, vital statistics serve alike to guide the resident and the immigrant, the capitalist and the laborer, the politician and the statesman, the moralist and the scientist. Ignored or disparaged by the average American State-legislator, they have been advocated and supported by Napoleon and Thiers, by Bismarck and Cavour, by Gladstone and Disraeli; and their establishment has become a test of the degree of civilization reached by a people and their rulers.

Louisiana needs the warning that the experience of other States, has abundantly proved, that trustworthy reports of vital statistics cannot be obtained from the voluntary action even of medical men; that an adequate penalty must, in case of negligence, be enforced on all from whom the law may require reports; and that a competent, paid, medical official, to receive and compile the reports, is indispensable.

In regard to State Boards of Health, the following facts deserve to be better known: after thirty years of effort by the medical profession, Massachusetts, in 1869, legislated into existence the first State Board of Health and Vital Statistics organized in the United States. This prolonged effort was no doubt used in conciliating that legal maxim, which declares that "no law can successfully precede its public sanction," and serves to explain, at least in part, the pre-eminent success of this Board. However, the Governor did exercise, in the choice of members of the Board, an amount of discretion very unusual to politicians, when acting in medical matters; and the legislature, beginning with an experimental appropriation of $3000, for the first year, has rapidly trebled it. The acknowledged superiority of this Board is sufficiently proved by this fact, among many others, that it did at once recognize that the greatest obstacle to sanitary progress was popular ignorance, and therefore that its primary duty was to teach the people. Hence, it at once organized a corps of reliable correspondents

throughout the State; it solicits reports from, and issues circulars of information to, all the doctors, preachers, teachers, county and State officials, newspapers and journals in Massachusetts; and, in addition, it issues and freely distributes more than 10,000 copies of the most valuable Annual Health Report ever published in this country. Thus by enlightening the public it has gained its favor, and has thereby increased its own power, and the bounty of the legislature. So great is this power, that it triumphed over a financial combination of fifty slaughterhouses, and converted these health and life destroying nuisances into sanitary blessings; it made war in Boston on the pestilence-breeding "houses of the poor," and thus so alarmed the politicians, who loving their country much, love votes, even of the sick pauper, more, that the Board summoned to its support a mass meeting of the people and was sustained.

Some few of the other eighteen State Boards of Health—notably that of Michigan—increase the hopes inspired by Massachusetts' example; but it is a sad truth that a majority of these boards are, through legislative or gubernatorial action, mere burlesques on sanitary science. Louisiana has legislated on *paper* a State Board of Health and Vital Statistics; but in reality we have no State, merely a city, board of health, organized under laws which nobody except politicians (and a designing or ignorant class of these) can possibly approve. The efforts of the "legislative committee" of this society to improve these laws deserve careful consideration, and probably our support. If consolation is derivable from the superior folly of others, then Louisiana is consolable; for some other States have certainly surpassed her. Georgia, Virginia and, alas! my native State, Mississippi, have legislated State Boards of Health into existence, have imposed on the officers onerous and expensive duties, and then have appropriated for the execution of these laws, and the discharge of these duties—*not one cent!* But, in any record of legislative quackery, North Carolina cannot be omitted, for her legislature, apparently emulous to humiliate Virginia (1874), Georgia (1875), and Mississippi (1877), passed a similar law (1877), requiring the discharge of equally onerous and expensive duties, and then enacted "section 5," which deserves a prominent place in that Sanitary Museum which we some day will have, as Great Britain now has. It reads: "For the purpose of defraying the necessary expenses of the board of health of the State of North Carolina in the discharge of its official duties, there shall be paid annually out of the treasury of the State to the treasury of the said board of health, upon the requisition of the president and secretary thereof, the sum of ONE HUNDRED DOLLARS!!"* None the less, another legislature has surpassed all these in ludicrous legislation. For years the Maine Medical Association has been in vain solicit-

* It is gladly announced that on March 14, 1879, North Carolina enacted a much improved board of health law, which is, however, still defective, specially as to an adequate appropriation.

ing a board of health, which, however, it will very certainly soon get, because it is using all such means as public lectures, newspapers and journals to teach the people. About 1876, the doctors urged on the legislature, among other things, the argument that, inasmuch as the State paid annually $4000 bounty on wolves and bears to protect its sheep, its human animals were entitled to similar, even if to less favor, to protect them from such wolves and bears as variola and scarlatina. The Solons of Maine, by scratching their perplexed heads, at last appreciated the logical bait prepared by cunning doctors to ensnare them, and having concentrated the full force of their juridical minds on devising a consistent method of escape from the trap, they triumphantly enacted an immediate repeal of the bounty on wolves and bears; thus leaving wolves, bears, voters and sheep unmolested by the equal hand of justice in their "struggle for existence." The four parties interested were all deprived of farther right to complain of "class legislation," but there can be no doubt that the sheep of Maine have concluded that "too much legislation is dangerous."

Thus far, effort has been made to illustrate the benefits to the profession, and to the people which this society should seek to confer; and now much briefer consideration will be given to the last portion of my subject—to proofs that these benefits, which, in a free country, have never been attained by other means, can be conferred by an organized medical profession.

What *has been* effected by the 20,000 physicians of Great Britain will serve, in part, to prove what *might* be effected by the 60,000 physicians of these United States; and because of like language, laws and institutions, the successive steps by which Great Britain has made its noted progress in State Medicine are worthy of our special study, since through like progressive steps must we advance. In 1832, 310 physicians founded the British Medical Association, which, extending now its arms by thirty-one Branch Associations into every part of the three kingdoms, numbers more than 7000 members; and, though these pay an annual fee of only $5, the revenue of the Association amounts to $50,000.* What power has it gained over, and what benefits has it conferred on the profession and on the public?

It has promoted friendly intercourse, and thereby strengthened the links binding the units to the mass; it has gained immense control over medical ethics, and thereby established a high standard of professional conduct, and greatly increased both its social and its political influence; it has fostered scientific debate, as also greater accuracy in clinical and all medical studies; in addition it appropriates some $2000 yearly for promoting original researches, which exalting the profession have

* The British Medical Association was incorporated in 1874. Its affairs are managed by a "General Council," composed of one delegate for every twenty members, and the authority of this council is in large degree delegated to twenty members, who compose the "Committee of Council," which meets not less than four times a year.

blessed humanity, and thereby it has vastly stimulated the progress of medical science. It has raised by voluntary subscription a "benevolent fund," which yields more than $3000 annually, and thereby it constantly contributes "temporary relief to distressed medical men, their widows and orphans." It did in 1853 establish, and in 1866 greatly improve, its weekly official organ, that noted first class periodical the *British Medical Journal*, and thereby it has constantly instructed and stimulated its members—furnishing this valuable journal without cost—has increased its membership since 1866 at the rate of 500 annually, and has added a large surplus to the revenue derived from the annual fee of its members. But, great as are these benefits to the profession, they are insignificant when compared with those conferred on the public.

*Pari passu* with the progress of the British Medical Association, medical and sanitary measures have been forced upon the attention of Parliament, and are now receiving from this enlightened body more consideration and wiser action than given by any other national legislature. Parliament, influenced by the British Medical Association, has, by law, greatly improved the status and efficiency of the medical officers of the army, navy and "Poor Law Medical Service;" has, by the Registration Act of 1858, greatly repressed charlatanism, and has notably stimulated medical education, not only by this means, but also by establishing boards independent of medical teachers to examine and grant diplomas;* and has by the four different Acts of 1853, '61, '67 and '71 forced "compulsory vaccination" on all infants over three months old; thus obviating the popular Anglo-American outcry against invasions of the "personal liberty of the subject." But, surpassing in importance all these and other unmentioned laws, are the six public health Acts† enacted from 1848 to 1875, which have established on a solid foundation an efficient system of public hygiene, with 15,000 sanitary districts and the requisite number of sanitary officers. These Acts have rendered Great Britain pre-eminent in preventive medicine, and have secured to this great nation the preservation of its power and a constant increase to its prosperity. But, as science is ever progressing, so the British Medical Association is constantly finding old structures to demolish, new edifices to erect. Among these it will soon demolish the coroner, build up inebriate asylums and other means to control habitual drunkards; establish compulsory revaccination at puberty, and erect for our envious admiration a few stately "Conjoint Medical Examining Boards," which will secure the people not only qualified physicians but also competent midwives, pharmacists, dentists, and even professional nurses.

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* See address on "Higher Med. Ed.," etc., by Dr. Wm. Pepper. Philadelphia. 1877.

† The Public Health Act of 1848, the Nuisances Removal Act of 1855, the Local Government Act of 1858, the Sanitary Act of 1866, the Public Health Act of 1872, and the Public Health Act of August 21, 1875.

With this imperfect statement of what has been, and will soon be accomplished by the British Medical Association, attention should be directed to the important advantages it enjoys over our American Medical Association. First, the small extent of Great Britain, the density of its population, the cheapness and quickness of travel, all tend greatly to facilitate associated action. Secondly, the British medical profession has the inestimable advantage as to State Medicine, that it is able to concentrate its whole influence solely on one supreme legislative body—Parliament—while our form of government, since it, for the most part, reserves to the States those powers on which State Medicine depends, forces the American medical profession to fritter away its influence on forty-eight State and Territorial Legislatures. Hence, this important lesson, that the American Medical Association is not so important to the American medical profession as the British Medical Association is to the British medical profession; and that our thirty-seven State Medical Societies are of infinitely greater importance to our medical profession than the thirty-one British Branch Associations are to their medical profession. However, there are but few States in which the medical profession seems to realize these important facts, and even few State Medical Societies which seem to appreciate what is their chief function. For, if the promotion of State Medicine be not the paramount object of a State Medical Society, then what is its chief object, and to whom else would it transfer the interests of State Medicine? Although some State Medical Societies seem oblivious to this duty, none the less the length of this address could be readily doubled in enumerating all that has been and is being done by others of them. While the necessities of this occasion will not permit this, it is incumbent on me to prove that State Medicine has been and can be promoted in our own as well as in a foreign land by an organized medical profession.

The first proof will be derived from the Massachusetts Medical Society, which numbers in its membership much more than half the regular medical profession in the State, has one branch in every county, and more than one branch in several, has property valued at more than $30,000 and an annual income of about $7000. All that it has done need not be stated, for it will answer my purpose to recall to you that it is in Massachusetts that are found the best State Board of Health, and the best Registration of Vital Statistics in any State, and the *Medical Examiner* occupying the larger part of the coroner's chair. If our society, even after many years, should succeed in only this much, then our society would merit the gratitude of the people, and would certainly receive the blessings of posterity.

But since foreign and distant examples often cause conviction to abort, my last proof shall be derived from a State whose boundaries kiss our own, and whose people are as like to us in virtues and in faults, and as beloved by us as brothers—the State of Alabama. That a lesson by comparison may be profit-

able the comparison should be just. Then what advantage has Alabama over Louisiana? The former enjoys, I believe, none over the latter except the following: In 1870 the one had 1418 practitioners of medicine, the other 939; the one had 19⅝ inhabitants to the square mile, the other 17½; the one neither had nor has a large proportion of its population crowded into one great city, thus diminishing the density of population in the country—the other had and has New Orleans; the one had 521,000 white population, the other had 362,000; the one had, in 1878, 1802 miles of railroad, the other had only 539; the one organized its first State Medical Society in 1848 and it lived until 1861, the other in 1849 and it lived only until 1856; and, finally, the Alabama Society was reorganized in 1868, and the Louisiana society not until 1878. Of these advantages, only one will be considered in replies to the question: What good use has been made by Alabama of the ten years (1868–1878) lost by Louisiana?

The Alabama Medical Association deliberately considered for three years the construction of a new constitution, which, peculiar in several important particulars, specially provided for the advancement of State Medicine; and it dates its success from the adoption of this constitution in 1873. It, at the same time, adopted, as guiding principles, that it would "never, under any circumstances, demand legislative action for the express and exclusive advantage of the medical profession," and that it would maintain as a primary object the purification of the regular profession itself, and as a secondary object, the suppression of irregulars; in addition, it seems to have appreciated the great necessity there is that every scientific society should use the greatest caution in attempting to influence legislation on political, or personal, or class matters, and on matters unsettled in science. The results which have followed are, that the Alabama society has organized thirty-two county societies, which have 382 members, and all of these are members of the State Society; in 1875 it secured from the Legislature an Act, which constitutes the State Society the State Board of Health and of Vital Statistics, and its affiliated county societies county boards of health; and in 1877, the Legislature empowered this society to appoint a State Board and county boards of Medical Examiners, and granted to these the extraordinary power to regulate, exclusively and *regardless of all diplomas*, the practice of medicine in Alabama, determining the qualifications necessary therefor, subject to the sole restriction—that those proposing "to practice any *irregular* system of medicine" should be authorized to practice, if found qualified in other branches than therapeutics. Thus, Alabama has formally recognized the supremacy of the regular medical profession, subjecting irregulars to its supervision; and in fact has, by the Acts of 1875 and 1877, constituted its State Medical Society a veritable medical legislature, as to both Medical Education and Public Hygiene, in-

vesting this *imperium in imperio* with "great and unprecedented powers." It is grievous to add that the legislators who labored thus well in the right direction failed to make any appropriation to pay the expenses indispensable to the execution of these laws; and it is very joyful to add to this, that the Legislature did in 1879 appropriate $3000. Who of you will not gain courage from Alabama's example? Who of you will not earnestly hope for the success of this grand experiment in State Medicine; and who of you will deny that I have now fully proved all I promised? But, if we are to pay "honor to him to whom honor is due," then, in connection with the Alabama State Medical Association, must be mentioned the name of Dr. Jerome Cochran, of Mobile, to whom is due its constitution, and to whom is largely attributable the prosperity of the association and the consequent progress of State Medicine in Alabama.

In conclusion, permit me, fellow-members, through you to call the attention of all physicians of our State to the many recounted evils which are inflicted by ignorance and negligence of State Medicine and to the following considerations. As this society is not composed of visionary enthusiasts, we cannot indulge the extravagant hope that we can remove all these evils in a day, nor even in a generation. But, none the less, we can, in all soberness, hold these truths to be self-evident; that, as surely as this State keeps step with the march of civilization, so surely must these evils be eventually corrected; that a beginning must be made; that this beginning must be originated by the medical profession; and that an organized profession is the only agent competent to deal with these evils—which are relics of professional, as well as of public ignorance.

The only remedy for this ignorance is instruction by lecture and by publication which necessitate an expenditure of money, beyond the means of this society as of most others. But, if the medical profession were organized in county societies, these condensed into State Societies, and these aggregated into the American Medical Association; and if every physician cheerfully paid, as many now do, annual fees of from $10 to $15 to support all three of these, it would be difficult to exaggerate the magnitude of the power which medical knowledge would acquire to combat ignorance. Consider the influence on the sanitary progress of the nation, and of every State, the American Medical Association could exercise with a revenue of $200,000, which it would have, if every reputable physician were a member; and consider what could be accomplished by our society if every physician in the State who desired to do no more, did no more, than support the society by its annual fee, for, if means to publish and to teach were supplied, able volun-

teers would gladly do the labor "without money and without price," until that early day when publications, more valuable than the fee, would be gratuitously distributed to every member, as is now done by the British Medical Association. Having digested these considerations, still farther consider what can be the degree of enlightenment of the many physicians of every State who contribute neither money nor presence to medical organization: what the enlightenment of some county societies, which were so dissatisfied with an annual fee to the State Society of $1, for each member that the Texas State Medical Association was forced, in 1878, to reduce this fee to a *homœopathic fifty cents.* In face of such examples, for what reason does the medical profession arrogate to itself the right to denounce the ignorance of the people? By what right does the profession arraign the people's representatives who, for the most part, are, as you know, superior to their constituents in little except in the art to secure and to use their votes; and differ from them in little except in the psychological peculiarity that their *judgment* will not approve the day after election the very measures, which, if set on foot the day before, they would have cheerfully pledged themselves to support? Before expecting the support of these we must convert to the "gospel of health" the preachers, the school teachers, the editors, and above these the lawyers, especially those of them who honor the fundamental *principles* of the law more than its *precedents.* But our first and greatest need, like charity, begins at home, for most of all we need to convert our own profession.

Even we, who are now present and ready for duty, have sadly lagged behind our professional brothers in other States, and have incurred reproach. We have the right to urge that four years of fatricidal war, followed by eleven years of legalized rapine and anarchy, kept Louisiana as she was left, poverty-stricken and demoralized, mourning, in ragged garments, over desolated and impoverished homes, and over the graves of the best and bravest of her sons; that not until 1877 did we secure civilization's first great need, social order, for, only then was the protracted experiment—whether political art could by legal device enable ignorance and vice to permanently rule over intelligence and virtue—decided in favor of civilization's and of nature's law—the survival of the fittest—a law which, like all of inexorable nature's, man, aye, even senators and presidents, struggle against in vain. For these reasons, Louisiana was, in the nation's centennial year, the only one of the thirty-eight States, except the new-born and sparsely inhabited mining State of Nevada, which had no State Medical Society, and did not initiate until 1877 the efforts which the year after organized this society.

Born after travail so arduous and protracted, born the

harbinger of social order and prosperity, shall we not join hands in its support so earnestly and unselfishly that we shall preserve it from the fate of its predecessor; make it, in generous emulation, the equal of its sister organizations; and, while rendering it a blessing to our profession, render it a still greater blessing to our people? If this effort meets with failure it will be due, not to the people nor to their representatives, nor to any other class so much as to the medical profession itself; and the public will be justified in indorsing this our proclamation to the medical profession of Louisiana—

> "The fault, dear [doctors,] is not in our stars,
> But in ourselves, that we are underlings."

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## Comparative Pathology of Malarial and Yellow Fevers.

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GENTLEMEN:

The title of the paper which I proposed to prepare at the close of the last session of the Medical Association of Louisiana, was the *comparative pathological anatomy of malarial and yellow fevers;* when the transactions were published, I found that the title of the proposed voluntary communication, embraced a far wider field. Pathology, in its widest acceptation, treats of the origin, history, causes, symptoms and effects, nature and differences of diseases. A discourse on the doctrine of diseases should even embrace the theories of prevention, prophylaxis and treatment. I am therefore, embarrassed by the magnitude of the subject; and my chief difficulty lies in the selection and presentation of such materials as will in the brief space of time at my command, best advance the scientific interests of this honorable and learned Association.

The investigation of any specific disease, should embrace, 1st, its origin in time and space; 2d, history; 3d, relations to climate, soil and waters; 4th, relations to race, food and sanitary conditions, habits and occupations of human beings; 5th, accurate records of the symptoms at stated periods of the day and night, exhibiting the changes of temperature, pulse and respiration, and unfolding accurately the manifestations of the nervous, muscular, cutaneous, circulatory, alimentary and urinary systems; 6th, microscopical examinations of the blood, associated also with microscopical and chemical analysis of the air and waters; 7th, chemical analysis of the blood; 8th, chemical and microscopical analysis of the urine, sweat, saliva, gas-

tric and intestinal juices and excretions and morbid products; 9th, chemical and microscopical examination of the various organs and secretions as the bile; 10th, post-mortem observations of changes of temperature; 11th, post-mortem examinations, embracing accurate details as to the physical, chemical and microscopical characters of the solids and fluids; 12th, prevention; 13th, prophylaxis; 14th, treatment; 15th, relations of symptoms, pathological chemistry and physics, and pathological anatomy, to analogous conditions and changes, in related and diverse diseases.

Even if the investigations as to the nature, causes and treatment of malarial and yellow fevers, were so far advanced as to admit of the widest and most positive generalizations, time on the part of the speaker, and patience on the part of the hearer would be wanting upon the present occasion; and we shall content ourselves chiefly with the presentation of such results of our investigations as bear upon the following points:

1st. The history of yellow fever, more especially in Louisiana.

2d. Relations of the yellow fever as it prevails in Louisiana to climate.

3d. General outline of the symptoms and pathological anatomy of yellow fever.

We shall endeavor to illustrate each division of our subject by comparative observations on malarial fever, and by actual demonstrations with pathological specimens, microscopical objects, colored drawings, and tabulated statements. We do not desire to burden this Association with the charge of this mass of material which will find its proper place in the 2d volume of my Medical and Surgical Memoirs, which will relate chiefly to the fevers and diseases of our Southern States. In sanitary science as well as in political history, we can form a correct estimate of the future, only by a careful study of the experience of the past; and hence all that relates to the past history of a terrible scourge which has upon several memorable occasions, and more especially during the past year carried terror, suffering and death, far into the interior of the North American Continent, should command the attention of the medical profession as the natural guardians of the public health. The early history of yellow fever in New Orleans, is of special interest, not merely to this State and country, but to all other civilized nations, as she is the grand emporium of all the vast tracts traversed by the Mississippi, the Missouri, and their tributary streams, and enjoys a greater command of internal navigation than any other city of either the old or new world. The Mississippi drains the greater part of the territory of the United States lying between the Alleghany and the Rocky Mountains; its basin more than equal in area to the whole Continent of Europe, exclusive of Russsia, Norway and Sweden, is greatly diversified in soil, in climate and in productions, and opens to commerce more than 20,000 miles of navigable rivers, all tributary to the great Mississippi.

No city in the world has suffered more obloquy than New Orleans, in relation to health, and more especially in regard to its oft' recurring epidemics of yellow fever. It would not be beyond the bounds of truth to affirm, that but for this American scourge, New Orleans, even at this day, would have exceeded every other city of America, as well in the magnitude of its imports as of its exports. If by the application of all the facts known to science, the sanitary condition of New Orleans can be so far improved as to exclude yellow fever, it is not unreasonable to believe, when we consider the boundless extent and extraordinary fertility of the basins of the Mississippi and Missouri, that New Orleans is destined to become the great emporium, not of America only, but of the world. Even at the present day, she holds commercial relations with almost every maritime nation and large city of the globe; and as the representative and port of this mighty valley, her health and prosperity is not merely national but cosmopolitan.

Yellow fever in its origin and spread is governed by fixed laws, which have their origin in the constitution of the physical universe, and the great question of quarantine must be discussed and its value determined by the adaptation of its regulations and restrictions to the natural history of the disease.

### MALARIAL FEVER. HISTORY.

It is probable that the various forms of paroxysmal, marsh (paludal), or miasmatic fever, were cöeval in their origin and prevalence with the occupation of tropical, sub-tropical and temperate regions by the human race. The cause of these fevers appear to have existed from the time of the advent of the human race on this globe. Accurate descriptions of intermittent, remittent and pernicious malignant fevers, are found in the earliest medical writers, from the days of Hippocrates. And numerous facts recorded in every age, show that countries are unhealthy in proportion to the quantity of marsh or undrained alluvial soil which they contain. It has been observed for ages that the mortality of countries is seriously influenced by the condition of the soil, the elevation and the temperature.

In former times, before the introduction of bark and quinine, the mortality was in low marshy situations, as high as 1 in 15 of the inhabitants, whilst in more healthy and elevated countries, it did not average annually, more than 1 in 40. The connection of intermittent and remittent fevers with warm moist climates and marshy, swampy, ill drained and badly cultivated countries, is well established by the histories of Rome, Italy, France, Germany, Holland and England, and of the United States. The experience of these countries have established the great fact, that drainage and agriculture sensibly reduce the number of cases of this disease; whilst the neglect of drainage and agriculture sensibly increases the number and severity of the cases.

In the Southern States, especially in North Carolina, South Carolina and Georgia, the inhabitants suffered severely from the gravest forms of malarial fever, during the clearing of the dense virgin forests. With improved drainage, and the extension of agriculture, these forms of malarial fever have to a great extent disappeared, and been replaced by typhoid fever. During the recent civil war, 1861, 1865, when immense bodies of Confederate troops were assembled along the low marshy and swampy borders of the Southern States, malaria produced destructive and disastrous effects, not only destroying many lives, but also permanently impairing the constitutions of the soldiers. At the same time it is well known that yellow fever was absent from the southern armies, limited epidemics and sporadic cases occurring only at Charleston, Wilmington and Norfolk and New Orleans.

The sudden liberation of the slaves, and the subversion of the political and agricultural system of the South, at the close of the war, caused the abandonment of many well cultivated and thoroughly drained estates, and to this cause chiefly, must be attributed the prevalence since the war of that severe and fatal form of malarial fever, attended with severe jaundice and hæmorraghes known as hæmorraghic and hæmaturic malarial fever.

Malarial fever is an endemic of all warm climates. It has its base within the tropics and extends northwards till it is arrested by decreasing temperature. It is very prevalent in the West Indies, East Indies, India, China, and along the southern coast of North America, and within the Mississippi Valley, whilst it is almost unknown in Nova Scotia and in the New England States on the Atlantic sea-board. In Europe ague is endemic on the coast of the Gulf of Bothnia, beyond latitude 62° north. In the interior valley of North America, intermittent fever is the prevailing malady. From its occurring constantly within the tropics, but ceasing far south of the Polar circle, it appears that a high temperature is a condition necessary to its production, but this can only be considered as an exciting cause. It is found that a summer temperature of 60° is necessary to the production of the fever, and that it will not prevail as an epidemic when the temperature is below 65°. It therefore occurs in winter at places where the season has a mean temperature of 60° or upwards, as at Vera Cruz, Tampico, Havana, and in certain winters in New Orleans. But at this latter place, and generally under the 30th parallel, where the mean winter temperature is under 50° F., the fever is suspended. At New Orleans the necessary heat exists for 9 months of the year, March to November; at St. Louis 5 months, May to September; at Montreal 4 and Quebec 3 months. A continuance of a heat of more than two months, a heat equal to 60°, is necessary to its development; here it prevails more in October than April, though their mean temperatures are nearly the same, and the greatest prevalence of malarial fever in every latitude is generally some weeks after hottest months of the year.

## YELLOW FEVER HISTORY.

Yellow fever with syphilis have been regarded as strictly American diseases, the medical history of which do not antedate the discoveries of Columbus. With reference to the latter disease, my explorations of the mounds and stone-graves of the Mississippi Valley have established the important fact that undoubted marks of syphilis are to be found in the diseased bones of the aborigines, whose remains antedate the advent of Europeans on the North American continent.

After a critical examination of the works of Herodotus, Strabo, Justin, Cornelius, Nepos, Eutropius, Plutarch, Titus Linus, Thucidides, Homer, Sallust, Virgil, Flores, Vallerius, Particulus, Cæsar, Horace, Cicero, Xenophon, and Tacitus, we have failed to recognize the disease now called yellow fever, in any descriptions of particular plagues or allusions to any pestilence; and in like manner, whilst in the writings of the middle ages we have descriptions of wide-spread and mortal plagues, amongst which may be recognized the oriental glandular plague, small-pox, measles, typhus and typhoid fevers, the sweating sickness, elephantiasis or leprosy, cholera, dysentery, and cerebro-spinal meningitis; yellow fever finds no place in these annals of general history, or of medicine, previous to the discovery of America by Columbus.

## WAS YELLOW FEVER KNOWN TO THE ABORIGINES OF AMERICA BEFORE ITS DISCOVERY BY COLUMBUS?

As we have failed to find any history or record of yellow fever before the voyage of Christopher Columbus, the first question of importance which presents itself is, whether yellow fever had ever prevailed among the aboriginal inhabitants of North and South America and the West Indies previous to the discovery of America and the explorations of the Spanish adventurers, and the establishment of the Spanish, French, Portuguese, Dutch and English colonies?

The West India Islands and certain portions of North and South America, as the Valley of the Mississippi, Mexico, Central America and Peru appear to have been, at the time of their discovery by Europeans, peopled with a sufficiently dense population for the existence of those conditions upon which the origin and spread of certain diseases depend. The wholesale destruction of the native population by cruel wars, and by still more cruel slavery, and by the introduction of certain diseases, as the small-pox, as well as the wanton destruction of the pictorial works by which the hieroglyphics of the more advanced nations of America might have been deciphered, and the sudden and utter subversion of the systems of religion and science peculiar to these people, and the rapid disappearance of the royal families and priests who were, as in ancient Egypt, the custodians of the national science and art, have involved in

obscurity many subjects of great and lasting interest to the medical historian.

The medical historian has only imperfect and doubtful data upon which to found any opinion as to the nature of the epidemic and contagious diseases which afflicted the aborigines previous to the discovery of the Western hemisphere.

That the more populous nations of America were not exempt from diseases of an epidemic and pestilential nature, has been well established.

### ANALOGIES BETWEEN THE MEXICAN PESTILENCE MATLAZAHUATL AND YELLOW FEVER.

The pestilence called by the Mexicans "Matlazahuatl" desolated the cities of the Toltecs in the eleventh century, and forced them to abandon Mexico, and to continue their migrations southward, and to the west and northwest; it invaded the populous cities of Central America, and a similar disease committed great ravages amongst the Indian tribes which occupied the country between the mountains and the Atlantic coast a few years before the landing of the Pilgrim Fathers.

The Matlazahuatl, a disease closely resembling yellow fever, but which is said to be peculiar to the Indian race of America, has seldom appeared more than once in a century; it raged in the eleventh century amongst the Toltecs, it made great ravages amongst the Mexicans in 1545, 1576, 1736, 1737, 1761 and 1763, and amongst the Indians of the Atlantic coast in 1618 and 1619.

According to Alexander Humboldt, the Matlazahuatl, although pestilential in its nature, and attended with hæmorrhage from the nose and stomach, was distinct from the Vomito Prieto, and was peculiar to the aborigines of America. The Spanish authors call this disease a plague. The following passage from Humboldt's "Political Essay on New Spain" appears to embody all that is known with reference to the nature of the Matlazahuatl of the Mexicans:

"The Matlazahuatl, a disease peculiar to the Indian race, seldom appears more than once in a century. It raged in a particular manner in 1545, 1576 and 1736. It is called a plague by the Spanish authors. As the latest epidemic took place at a time when medicine was not considered as a science, even in the capital, we have no exact data as to the Matlazahuatl. It bears certainly some analogy to the yellow fever or black vomiting; but it never attacks white people, whether Europeans or descendants from the natives. The individuals of the race of Caucasus do not appear subject to this mortal typhus, while, on the other hand, the yellow fever or black vomiting very seldom attacks the Mexican Indians. The principal site of the Vomito Prieto is the maritime region, of which the climate is excessively warm and humid; but the Matlazahuatl carries terror and destruction into the very interior of the country, to the central

table-land, and the coldest and the most arid regions of the kingdom.

"Father Forribio, a Franciscan, better known by his Mexican name of Motolina, asserts that the small-pox at its introduction in 1520, by a negro slave of Narvaez, carried off half the inhabitants of Mexico. Toquemada advances the hazardous opinion that in the two Matlazahuatl epidemics of 1545 and 1576, 800,000 Indians died in the former, and 2,000,000 in the latter. But when we reflect on the difficulty with which we can at this day estimate in the eastern parts of Europe the number of those who fall victims to the plague, we shall very reasonably be inclined to doubt if the Viceroys Mendoza and Almanza, governors of a recently conquered country, were able to procure an enumeration of the Indians cut off by the Matlazahuatl. I do not accuse the two monkish historians of want of veracity, but there is very little probability that their calculation is founded on exact data.

"A very interesting problem remains to be resolved. Was the pest which is said to have desolated from time to time the Atlantic regions of the United States before the arrival of the Europeans, and which the celebrated Rush and his followers look upon as the principle of the yellow fever, identical wi h the Matlazahuatl of the Mexican Indians? We may hope that this last disease, should it ever reappear in New Spain, will be hereafter carefully observed by the physicians."—"Political Essay on the Kingdom of New Spain," vol. i., pp. 117, 118.

"Long before the arrival of Cortez there has almost periodically prevailed in New Spain an epidemical disease called by the natives Matlazahuatl, which several authors have confounded with the Vomito or yellow fever. This plague is probably the same as that which in the eleventh century forced the Toltecs to continue their emigrations southwards. It made great ravages amongst the Mexicans in 1545, 1576, 1736, 1737, 1761, and 1763; but as we have already observed, it differs essentially from the Vomito of Vera Cruz. It attacked few except the Indians or copper-colored race, and raged in the interior of the country on the central table-land, at twelve or thirten hundred toises above the level of the sea. It is true, no doubt, that the Indians of the valley of Mexico who perished by thousand in 1761 of the Matlazahuatl, vomited blood at the nose and mouth; but these hæmatemeses frequently occur under the tropics, accompanying bilious ataxical *(ataxiques)* fevers; and they were also observed in the epidemical disease which in 1759 prevailed over all South America, from Potosi and Oraso to Quito and Popazan, and which, from the incomplete description of Ulloa, was a typhus peculiar to the elevated regions of the Cordilleras. The physicians of the United States who adopt the opinion that yellow fever originated in the country itself, think they discover the disease in the pests which prevaled in 1535 and 1612 among the red men of Canada and New England. From the little which we know of the

Matlazahuatl of the Mexicans, we might be inclined to believe that in both Americas, from the remotest periods, the copper-colored race has been subject to a disease which in its complications resembles in several respects the yellow fever of Vera Cruz and Philadelphia, but which differs essentially from it by the facility with which it is propagated in a cold zone, where the thermometer during the day remains at ten or twelve Centigrade degrees (50° and 58° Fahrenheit)."—"Political Essay on the Kingdom of New Spain," vol. iv., pp. 135–137.

During the four centuries in which the monarchy of the Toltecs lasted, they multiplied considerably, extending their population in every direction and founding numerous and large cities, and building those great pyramids and monuments which required the united efforts of multitudes for their completion; but the calamities which happened to them in the first year of the reign of Topillzia—A. D. 1131-52—gave a fatal shock to their prosperity and power. For several years their country was afflicted with such a severe drought that their fields failed to yield them their necessary fruits; the air, infected with mortal contagion, filled their graves with the dead, and the minds of the survivors with consternation; a great part of the nation died by famine and sickness, and the wretched remains of the nation, in order to save themselves from the common calamity and from utter destruction, deserted Mexico, and sought relief from their misfortunes in other countries. There was therefore in this desolating plague of the Toltecs the usual association of famine and pestilence; and it is probable, that as in the history of many other nations, the former was the cause of the latter, and that the disease probably partook of the nature of the typhus and typhoid fevers of the present day. Humboldt, however, does not appear to be fully sustained in resting his opinion as to the absolute difference between the Matlazahuatl of the Mexicans and yellow fever *(romito prieto)*, upon the fact that the former prevailed at high latitudes and elevations.

The stereotyped expressions of systematic writers as to the limitation of yellow fever to certain elevations, must in the light of certain facts be abandoned. It has been supposed that yellow fever was confined to the sea shore, either because persons who bring that disease disembark there, and goods supposed to be impregnated with deleterious miasms are there accumulated, or because on the seaside gaseous emanations of a peculiar nature are formed. It is certain, however, that yellow fever has prevailed in the elevated table-land of Caracas, 3000 feet above the level of the sea, upon more than one occasion. In 1696, a bishop of Venezuela, Diego de Banos, dedicated a church to Santa Rosalia of Palermo, for having delivered the capital from the scourge of the black vomit *(romito nigro)*, which is said to have raged for the space of sixteen months. A mass celebrated every year in the Cathedral, in

the beginning of September, perpetuates the remembrance of this epidemic. The year 1696 was very remarkable for the yellow fever which raged with violence in all the West India Islands, where it had begun to gain an ascendency in 1688. This disease also carried off in Caracas a great number of European soldiers in 1802.

In the remarkable epidemic of yellow fever which prevailed in Peru in 1855 and 1856, the disease passed even the barrier of the Andes, committing fearful ravages in Andine and Transandine regions, at elvations of 14,000 feet above the level of the sea. Even the ancient capital of the Peruvian empire, Cuzco, at the elevation of 11,378 feet above the level of the sea, was not exempt from the ravages of yellow fever. No authentic records exist, from which may be gathered any facts illustrating the nature of the pestilence which, according to the "Gentleman of Elvas," desolated certain Indian nations a short time before the invasion of De Soto; it is supposed, however, to have been similar to the Matlazahuatl of the Mexicans.*

The terrible pestilence which wasted the American Indians in 1618 and 1619, a short time before the Pilgrim Fathers landed in Massachusetts, has been supposed by Noah Webster and others to have been yellow fever. This supposition cannot be maintained because, the disease prevailed with the greatest severity during the winter and in extremely cold weather. We are not justified in adopting the conclusion of Webster simply because there was a general yellowness of the skin, attended with hæmorrhages from the nose.

About 1750, a malignant epidemic disease prevailed amongst the Indians of the Atlantic coast, but did not afflict the whites, and which, in like manner, Webster considered as the "infectious yellow fever." The patients were said to have first complained of a severe pain in the head and back, which was followed by fever; in three or four days the skin turned yellow as gold, a vomiting of black matter took place, and generally a bleeding at the nose and mouth, which continued until the patient died. These symptoms resemble to a certain extent those of the disease known to the Mexicans as Matlazahuatl; and also those which characterize the malarial hæmaturia, which, since the recent war for the establishment of the independence of the Southern States, has prevailed to a considerable extent, and has been attended with a high rate of mortality.

The American Indians, in common with the whites, were subject to the various forms of malarial fever (intermittent, remittent, and congestive or pernicious, and malarial hæmaturia),

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* Hutchinson's History of Massachusetts, vol. 1, pp. 34, 35.
Belknap's Biography, vol. 2, p. 208.
Gookin's Historical Collections of the Indians in New England.
Prince's Chronological History of New England, p. 46.
Purchas, vol. 4, 1775.
Winthrop's Journal, p. 52.
History of Epidemic and Pestilential Diseases, etc., by Noah Webster, vol. 1, pp. 177, 178.

and it is well-known that in the first settlements of both North and South America, the Spanish, French and English colonists suffered terribly from these diseases. Many of the most flourishing and populous settlements were in a few years almost depopulated by these fevers, which committed the greatest ravages in those towns and colonies which were located near the mouths of large rivers in low marshy regions. Entire armies were destroyed by these fevers; and the pioneers who cleared the forests and drained the low lands, were either suddenly cut off by these "high grades" of bilious fever, which were often attended with a yellowness of the skin (jaundice), incessant vomiting of bilious matter, which was sometimes mixed with blood (black vomit), or were slowly poisoned by the malaria of the swamps and marshes, and dragged out miserable existences, rendered almost intolerable by enlargements of the spleen and liver, derangements of the blood and nervous system, neuralgias, and dropsies.

Thus it appears from Purchas, that the emigrants to Virginia in 1619, 1620, 1621, amounted to 3570 in 42 sail of ships. There were 600 souls in that colony before these arrived, making the whole number 4170. Of these, 349 perished in the Indian massacre of 1622, which would leave 3821 survivors. But in 1624 no more than 1800 were living. Scant means of subsistence might have contributed to this mortality; but most of it was in consequence of fevers, that were probably the effects of the climate, soil and atmosphere.

In that form of paroxysmal malarial fever characterized by complete jaundice, intense vomiting, nausea, and hæmorrhage from the kidneys, which has received different names at different times and in different countries, and which is no "new disease," even in the United States of America, the hæmorrhage from the kidneys is preceded by capillary congestion of these organs, and is attended by desquamation of the excretory cells and tubuli uriniferi.

Malarial hæmaturia (*hæmogastric malarial fever*), as a general rule, occurs only in those who have suffered from repeated attacks of intermittent fever, or who have been enfeebled by a prolonged attack of remittent fever, or whose constitutions have been impaired by bad diet, excessive labor, and frequent exposure to cold and wet and the exhalations of swamps and marshes. And whilst some of the symptoms—as the nausea, incessant vomiting (and in extreme cases black vomit), deep jaundice, and the impeded capillary circulation—resemble those of yellow fever, yet there are marked differences between this disease and yellow fever. The presence of albumen in the urine of this so-called malarial hæmaturia is attended also with the presence of colored blood-corpuscles, excretory cells of the kidney and of the tubuli uriniferi. The excretory tubes of the kidney appearing in the urine are often impacted with colored blood-corpuscles, and deeply stained by the coloring matters of the blood. As a general rule in yellow fever, the tubuli

uriniferi are loaded with yellow, granular, albuminoid and fibroid matter. In some cases immense quantities of green biliary fluid, or liquid tinged with bile, were vomited, and the patients died in a state of collapse, with blue mottled and purplish extremities, and sunken, pinched features. As a general rule, suppression of the functions of the kidneys was a fatal sign, and, as in yellow fever, was sometimes attended with convulsions, coma and delirium. Careful examination of the blood revealed a marked decrease in the fibrin and colored blood-corpuscles; in fact, this change in the blood was characteristic of all cases of this disease which have come under my observation. The pathological changes which I have observed after death from malarial hæmaturia are characteristic of paroxysmal malarial fever, and not of yellow fever—viz., enlarged slate-and-bronze-colored liver, loaded with dark pigment granules, deposited in greatest numbers in the portal capillary network; gall-bladder distended with thick, ropy bile, presenting, when seen *en masse*, a greenish-black color, and in thin layers a deep yellow. As much as 1000 grains of bile of high specific gravity has been obtained from the gall-bladder, whilst in yellow fever not more than 120 grains of bile are, as a general rule, contained in the gall-bladder.

As it is well established that malarial hæmaturia, and the severe and most fatal forms of malarial fever, prevail only in certain years, and appear to be dependent to a large extent upon the degree of heat and moisture, as well as upon the amount of organic matter in the soil, and as these epidemics in the tropical and temperate regions of America are often of the widest extent and severest character, and as the Indians suffered from these diseases to an almost equal degree with the whites, and as they were in North America without the most important remedies—bark and quinine—it is not unreasonable to suppose that at certain seasons large numbers perished by these diseases. And were it not for the free use of quinine in the treatment of paroxysmal fevers, many of the cities of the Southern States, surrounded with swamps and marshes, would have been depopulated; and even in the more elevated regions of the country, as in the rich valleys of the Cumberland and Allegheny mountains, and along the rivers flowing into the Atlantic and Gulf of Mexico, the mortality from paroxysmal malarial fever would in certain seasons be very great but for the free use and powerful antiperiodic virtues of quinine.

It is evident, therefore, that the origin of the American plague or typhus (*vomito prieto*, *fièvre jaune*, yellow fever) is involved in doubt, on account of the prevalence in the tropical and sub-tropical regions and temperate zones, both amongst the natives and foreigners, of some forms of malarial fever, often attended with jaundice, passive hæmorrhages, and black vomit. If it could be determined at what time this terrible disease was clearly recognized by the medical profession and

historical writers as distinct from paroxysmal malarial fever, and as dependent upon a specific cause or upon a combination of causes peculiar to itself, a firm ground for the discussion of its origin and of its relations to the native population, as well as to the foreign elements, would be established. But it is well known that many of the descriptions given by various authors will apply as well to the severe forms of paroxysmal malarial fever as to yellow fever, and also that the distinction of the one from the other has been the result of comparatively recent labors, and even at the present time there are not a few physicians who hold to the identity of both diseases in their origin and essential nature.

THE IMPOSSIBILITY OF DETERMINING WITH ACCURACY THE DATE AND MODE OF ORIGIN OF YELLOW FEVER, ILLUSTRATED BY AN EXAMINATION OF THE THEORIES WHICH HAVE BEEN ADVANCED AT DIFFERENT TIMES BY VARIOUS WRITERS AS TO ITS NATURE AND CAUSES.

The opinions in regard to the causes of yellow fever have been arranged by systematic writers under three heads—1. That it is a disease induced solely and essentially by contagion. 2. That it is essentially of endemic origin. 3. That, being of endemic origin, it afterwards becomes contagious. The doctrine that not only intermittent, remittent, and congestive or pernicious paroxysmal malarial fever, but also yellow fever, assume more or less, according to circumstances, the type of one another, has been extensively entertained by the medical profession. Believing them to arise from essentially the same causes, variously modified, which assail the system through the same avenues, these fevers are regarded by this class of reasoners as essentially the same, modified by the intensity of the cause and by the prevailing constitution. And it has strangely been sought to maintain this position by the fact that the natives of southern cities, in which yellow fever is of such frequent occurrence as to be pronounced endemical, possess in a great measure an exemption from this malady, and suffer only from the mild intermittent and remittent, whilst those lately arrived from northern latitudes so often fall victims to yellow fever that it has in some cities received the name of *strangers' fever.*

To sustain the opinion that yellow fever arises from miasmatic effluvia, the following facts have been frequently cited: 1. Yellow fever always appears simultaneously with bilious remittent. 2. A high range of atmospheric temperature is essential to the generation of its cause. 3. Its first appearance is almost always in the lowest and most filthy parts of towns, and in localities favorable to the production of miasmata. 4. The supervention of storms, heavy rains, or cold weather puts an immediate check to its progress.

It has been asserted that whilst at New Orleans, Charleston,

Savannah and Gibraltar the same individual is seldom twice attacked by yellow fever, in the West Indies and on the coast of Africa it is said to secure no subsequent immunity. With some writers it is still even a disputed question whether certain fevers which have, or are supposed to have, their source in vegetable miasms or in effluvia from marshes, or from infusoria or fungi developed and propagated under certain combinations of heat, moisture, and putrefying vegetable and animal matters, are subsequently spread by contagion; whilst some writers contend that within the tropics yellow fever may at any time, under certain conditions of moisture and temperature, arise *de novo* in the impure atmosphere of the crowded and filthy ship or city. Others, again, as strenuously uphold the doctrine that it is a specific contagious pestilential disease, which, like small-pox or measles, may be transported and communicated from one ship or city to others, thus following the great avenues of commerce. Whilst a third class adopt and advocate a doctrine which embraces the main features of both propositions. Some who hold that yellow fever may be engendered *de novo* in the hold or atmosphere of ships navigating in the warm, moist tropical regions, have coupled with this view the doctrine that if this poisoned atmosphere be allowed to escape at the wharves of cities situated beyond the yellow fever zone, those only who come within the sphere of its influence will be affected; and its subsequent spread will depend upon conditions of filth and crowding of such localities, the disease never spreading endemically, and falling harmless among the inhabitants of a salubrious locality.

According to this view, the development of this malignant fever requires the conjoint operation of both local and general causes, constituting an endemico-epidemic, which is unsusceptible of propagation by specific contagion; and in the summer atmosphere of a city lying beyond the yellow fever zone there must exist some peculiar combination of circumstances, or some peculiar agency favorable to its development. In these cases it is affirmed that there is generally found an infected district, which slowly and regularly extends its boundaries, rendering all who come within its limits subject to this form of fever. It has been said that the experience of several centuries teaches us that the cause of this fever is perennially present in the tropical and sub-tropical cities of America; that it is indissolubly connected with climate; that it maintains the same relation towards the human system as the other malarious emanations of swamps and lowlands; and that it is liable to be developed at any time in different degrees of intensity by the combined operation of heat and other agents.

Amongst the most striking circumstances in the etiology of yellow fever are the marked geographical boundaries within which it is confined and the circumscribed location in which it prevails, the disease being rarely met with south of the 35th or north of the 40th degree of latitude, and even between these

limits being more frequent in the Western than in the Eastern Hemisphere; its almost universal limitation to commercial seaports elevated but a few feet above the level of the sea, although it occasionally spreads to towns and cities in the neighborhood of the latter, situated in the interior country or on the banks of navigable rivers; and the fact that it is very frequently circumscribed within certain limited and well-defined portions of the locality or city in which it prevails. The shores of the Western Archipelago, and of the Gulf of Mexico and the Caribbean Sea, constitute the prolific hot-bed in which has been generated and propagated the mysterious poison of this disease, which has desolated cities, armies, and fleets, and destroyed the successive swarms of adventurers and invaders from Europe and the colonies of North America.

## GENERAL OUTLINE OF THE HISTORY OF YELLOW FEVER, ILLUSTRATING THE DIFFERENT VIEWS WHICH HAVE BEEN HELD AT DIFFERENT TIMES AS TO THE PLACE AND MODE OF ITS ORIGIN.

If it were possible to determine with accuracy the nature of the severe and fatal forms of fever which afflicted the first explorers and colonists of the tropical and sub-tropical regions of America, and even the very companions of Columbus, the question of the origin of yellow fever would be relieved of much uncertainty and doubt. If we are to credit the accounts of some authors, the first trace of yellow fever was observed at the end of the fifteenth and beginning of the sixteenth century at San Domingo and Porto Rico, in the Continent of South America, and in the Gulf of Darien, at which latter place it is said to have prevented the Spaniards from settling. In November, 1493, Columbus landed at San Domingo with 1500 Spaniards, in order to found the city of Isabella. A severe and fatal fever carried off the greater part of them within a year after their arrival, and the disease is described as being "yellow as saffron or gold." From 1544 to 1568 there is no record of the disease having prevailed as an epidemic until 1635, when it appeared in Guadaloupe, and thenceforward it occurred at regular intervals. In the seventeenth century it spread along the Continent of South America to latitude 8° south, and in North America to latitude 42°, but only on the eastern coast of both. The first appearance of the disease in the United States was at Boston in 1693, and in Charleston and Philadelphia in 1699. It is said first to have appeared in the Gulf of Mexico, at Biloxi Bay in 1702, and Mobile in 1705; but Humboldt held that it had prevailed from the very foundation of Vera Cruz, and was indigenous to this city. It prevailed at Pensacola and Mobile in 1765.

In the eighteenth century it appeared on the west coast of South America in latitude 2° south. On the North American

continent it spread to latitude 42° north; it extended even to Europe, and reached the Pacific and Madagascar. At the beginning of the nineteenth century it penetrated deeper into the North American continent than formerly, reaching as high as latitude 47° north, and in Europe it extended to latitude 48°, and prevailed in the Canary Islands and Leghorn.

Ever since yellow fever attracted attention it was recognized as a distinct disease from the remittent autumnal fevers of the temperate zone. It has prevailed as an endemic in Havana, raging epidemically from April to December, and occurring sporadically during the rest of the year. From time immemorial it has been endemic at Vera Cruz, in the Gulf of Mexico, where its chief victims are strangers who come from cold regions during the hot season, as well as Europeans and those natives who exchange the more elevated and cool regions of Mexico for the coast.

At the time when Spain possessed by far the best and largest portion of the American continent, extending from the north of California to the Straits of Magellan—a space of between 6000 and 7000 miles—a system of commerce was established which appeared to be eminently favorable to the origin and spread of yellow fever. The Spanish galleons were, in fact, very large men-of-war, built in such a manner as to afford ample room for the stowage of merchandise, with which they were commonly so encumbered as to be rendered incapable of defence. The fleet of galleons consisted of eight such men-of-war, and generally convoyed from twelve to sixteen merchantmen. During times of peace the galleons sailed once a year regularly, though at no set time, but according to the pleasure of the King of Spain and the convenience of the merchants.

They sailed from Cadiz to the Canaries, thence for the Antilles, and after reaching this longitude they bore away for Carthagena. As soon as they came in sight before the mouth of Rio de la Hacha, after having doubled Cape de la Vela, advice of their arrival was sent to all parts, that everything might be prepared for their reception. They remained a month in the harbor of Carthegena, and landed there whatever was designed for *terra firma*. They then sailed to Puerto Velo, where having stayed during the fair, which lasted five or six weeks, they landed the merchandise intended for Peru, and received the treasures and commodities sent from thence. The galleons then sailed back to Carthagena, and remained there till their return to Spain, which usually happened within the space of two years. When orders for returning home arrived, they sailed first to the Havana, and having joined the flota, and what other ships were bound to Europe, they steered northward as far as Carolina, and then, taking the westerly winds, they shaped their course to the Azores, when, having watered and victualed afresh at Terceira, they thence continued their voyage to Cadiz.

The Spanish flota consisted, like the galleons, of a certain number of men-of-war and merchant ships; there were seldom more than three of the former and sixteen of the latter in this fleet. They sailed from the coast of Spain some time in the month of August in order to obtain the winds that blow in November for the more easy pursuing their voyage to Vera Cruz. They called at Puerto Rico on their way to refresh, passed in sight of Hispaniola, Jamaica and Cuba, and, according to the winds and season, sailed either to the coast of Yucatan, or higher through the Gulf to Vera Cruz. The Spanish flotilla being intended to furnish not only Mexico, but the Philippine Islands also, with the goods of Europe, was obliged to remain in Vera Cruz for a considerable time, and sometimes found it necessary to winter in that port. This fleet usually sailed from Vera Cruz in the month of May, but was sometimes detained as late as August; it then made for Havana, and returned to Spain in company with the galleons.

The Spanish towns were generally built in low, unhealthy localities, surrounded by marshes and swamps, with narrow streets and high walls and fortifications, which not only compressed the towns within certain limits, and induced crowding and favoured the accumulation of filth, but also prevented to a certain extent the free circulation of air.

If the history of yellow fever in the Western Hemisphere be critically examined, it will be found that the accounts and dates of its origin varied with the extent and character of the information of the writers in each city, locality, or island; and each one in turn was tempted to assign to the disease a foreign origin. No city or place has been found to claim the honour of the origin and continuous propagation of yellow fever. Thus, the French writers, called this disease *mal de Siam*, and held the *tradition* that the disease had been imported in the ship *Oriflame*, which sailed with French colonists from Siam in the latter part of the year 1690. Monsieur Poupée Desportes, who practised at St. Dominique from 1732 until 1748, says that this fever was so called from its first being taken notice of in the island of Martinique at a time when some vessels were there from Siam.—("Hist. des Malad. de St. Dominique," vol. i, pp. 191, 192). But it is well known that the *Oriflame* touched at Brazil where yellow fever had been prevailing for several years, and Father Labat, who arrived at Martinico on January 29, 1694, tells us that the passengers of this ship caught the disease in Brazil.

Equally incorrect was the account given by Dr. Warren of its introduction into Barbadoes between the years 1732 and 1738. Dr. Warren concluded that the yellow fever which he saw at Barbadoes in 1732 and the following years was a continuation of the *plague* which in 1720 and 1721 had been brought from Palestine to Marseilles, and which he imagined had been brought from the latter place to Martinico, and thence to Barbadoes in 1721 by the *Lynn* ship of war.

Dr. Towne, who lived and practised as a physician at Barbadoes at the time of the alleged introduction of the plague from Marseilles (1721), and who wrote in 1724 (before the arrival of Dr. Warren) on yellow fever under the denomination of *febris ardens biliosa*, made no allusion to any such importation, but considered it as an endemic disease in the West Indies to which Europeans were subject upon their first arrival.

Mr. Hughes says, in his "Natural History of Barbadoes," that Dr. Gamble remembers that it was very fatal in 1691, and that it was then called the "new distemper," and afterwards, "Kendal's fever," also the "pestilential fever," and "billious fever." This statement is also confirmed by Captain Thomas Phillips, who was at Barbadoes with a large ship in 1694, and says, in the account of his voyage to Africa and Barbadoes, that it was the fate of that island to be then "violently infected with the plague."—(Churchill's Collect., vol. i., p. 253.)

It appears, however, from the statement of Mr. Richard Vines, a planter and practitioner of physic in Barbadoes, that yellow fever prevailed with destructive effect as "an absolute plague" as early as 1647; and Dr. Edward Nathaniel Bancroft, in his essay on yellow fever, suggests that it was called "a new distemper" in 1691–94, because all who had had any accurate knowledge of it in 1647 were probably dead or removed.

Mr. Richard Ligon in his history of Barbadoes, published in 1657, says that when he arrived there in 1647, in the early part of September, the inhabitants of the island and shipping too were so seriously visited by the plague (or as deadly a disease) that "before a month was expired after our arrival the living were hardly able to bury the dead." In considering the causes of this disease—whether it was brought thither in shipping, or was occasioned by the irregularities, debaucheries, and ill diet of the people, and the unhealthy, low, marshy situation, subject to overflow—he inclined to the latter.

A similar fever, and probably from the same causes, prevailed at the same time at St Christopher, Guadaloupe, and other islands, and there died at St. Kitts and Barbadoes each five or six thousand inhabitants.

P. Du Tertre also mentions this disease, and calls it the plague. He says that it began at St. Christopher, and in eighteen months carried off one-third of the inhabitants, and that it was accompanied with violent pain in the head, great debility of the limbs, and a constant vomiting; and that in three days it sent the patient to the grave.

Dr. Hillary, who enjoyed a high reputation as a successful practitioner and learned physician in Barbadoes, affirms that the disease was indigenous and endemic to the West India Islands.

The testimony of Alexander Humboldt is similar to that of Dr. Hillary, and is worthy of the most careful consideration in the light in which it presents the history of yellow fever. In

his "Political Essay on the Kingdom of New Spain," this distinguished traveler, naturalist, and philosopher says:—

"The typhus, which the Spaniards designate by the name of 'black vomiting' *(vomito prieto)*, has long prevailed between the mouth of the Rio Antigua and the present port of Vera Cruz. The Abbé Clavigero(a) and some other writers affirm that this disease appeared for the first time in 1725. We know not on what this assertion, which is so contrary to the traditions preserved among the inhabitants of Vera Cruz, is founded. No ancient document informs us of the first appearance of this scourge; for throughout all the warmer parts of equinoctial America, where the termites and other destructive insects abound, it is infinitely rare to find papers which go fifty or sixty years back. It is believed, however, at Mexico, as well as at Vera Cruz, that the old town, now merely a village, known by the name of La Antigua, was abandoned towards the end of the sixteenth century(b) on account of the disease which then carried off the Europeans.

"Long before the arrival of Cortez there has almost periodically prevailed in New Spain an epidemical disease called by the natives 'Matlazahuatl,' which several authors (c) have confounded with the *vomito* or yellow fever. * * *

"It is certain that the *vomito*, which is endemical at Vera Cruz, Carthagena, and Havana, is the same disease with the yellow fever, which, since the year 1793 has never ceased to afflict the people of the United States. This identity, against which a very small number of physicians in Europe have started doubts, (d) is generally acknowledged by those of the Faculty who have visited the Island of Cuba and Vera Cruz, as well as the coast of the United States, and by those who have carefully studied the excellent nosological descriptions of of MM. Makittrick, Rush, Valentin, and Luzuriaga. We shall not decide whether the yellow fever is perceptible in the *causus* of Hippocrates, which is followed, like several remittent bilious fevers, by a vomiting of black matter; but we think that the yellow fever has been sporadical in the two continents since men born under a cold zone have exposed themselves in the low regions of the torrid zone to an air infected with miasmata. Wherever the exciting causes and the irritability of the organs are the same, the disorders which originate from a disorder in the vital functions ought to assume the same appearances.

"It is not to be wondered at that at a period when the communications between the Old and New Continents were far from numerous, and when the number of Europeans who annually frequented the West India Islands were still small, a disease which only attacks the individuals who are not sea-

(a) "Storia di Messico," t. i., p. 117.

(b) "New Spain," vol. ii., p. 253.

(c) Letter of Alzate in the "Voyage de Chappe."

(d) "Arejuta de la Fièbre Amarilla de Cadiz," t. i., p. 143.

soned to the climate, should have very little engaged the attention of the physicians of Europe.

"In the sixteenth and seventeenth century the mortality must not have been so great.—1st. Because, at that period the equinoctial regions of America were only visited by Spaniards and Portuguese—two nations of the south of Europe less exposed, from their constitution, to feel the fatal effects of an excessively hot climate than the English, Danes, and other inhabitants of the north of Europe who now frequent the West India Islands. 2dly. Because, in the islands of Cuba, Jamaica, and Hayti, the first colonists were not assembled together in such populous cities as were afterwards built. 3rdly. Because, on the discovery of continental America, the Spaniards were less attracted by commerce towards the shore, which is generally warm and humid, and preferred a residence in the interior of the country, on elevated table-lands, where they found a temperature analogous to that of their native country. In fact, at the commencement of the conquest the ports of Panama and Nombre de Dios (e) were the only ones where there was a great concourse of strangers; but from 1535 the residence at Panama,(f) was as much dreaded by the Europeans as in our times a residence at Vera Cruz, Oma, or Porto Cabello. It cannot be denied from the facts related by Sydenham and other excellent observers that, under certain circumstances, germs of new diseases may be developed; (g) but there is nothing to prove that the yellow fever has not existed for several centuries in the equinoctial regions. We must not confound the period at which a disease has been first described, on account of its having committed dreadful ravages in a short space of time, with the period of its first appearance.

"The oldest description of the yellow fever is that of the Portuguese physician Joam Ferreyra Da Rosa, (h) who observed the epidemic which prevailed at Olinda, in Brazil, between 1687 and 1694, shortly after a Portuguese army had made the conquest of Pernambuco. We know in the same manner with certainty that in 1691 the yellow fever manifested itself at the island of Barbadoes, where it went by the name of 'Kendal' fever, without the smallest proof appearing that it was brought there by vessels from Pernambuco. Ulloa (i) speaking of the *chapetonadas*, or fevers to which Europeans are exposed on their arrival in the West Indies, relates that according to the opinion of the people of the country, the *vomito prieto* was unknown at Santa Martha and Carthagena before 1729 and 1730, and at Carthagena previous to 1740. The first

(e) Nombre de Dios, situated to the east of Porto Bello, was abandoned in 1584.

(f) Pedro de Cicca, c. ii., p 5.

(g) *See* "Respecting an Affection of the Larynx which prevails epidemically at Otaheite since the arrival of a Spanish vessel *Vancouver*," t. i., p. 175.

(h) "Trattado da Constituicam Pestilencial de Pernambuco," par Joam Ferreyra da Rosa, em Lisboa, 1694.

(i) "Voyage," t. i., pp. 41 and 149.

epidemic at Santa Martha was described by Juan Josef de Gastalbrude, (k) a Spanish physician. Since that period the yellow fever has several times raged out of the West India Islands and Spanish America, on the Senegal, in the United States, (l) at Malaga, Cadiz, (m) Leghorn, and according to the excellent work of Cleghorn, even in the island of Minorca (n). We have thought it proper to relate these facts (many of which are not generally known) because they throw some light on the nature and cause of this cruel disease. The opinion that the epidemics which since 1793 have nearly every year afflicted North America differ essentially from those which for centuries have prevailed at Vera Cruz, and that the yellow fever was imported from the coast of Africa into Grenada, and from thence into Philadelphia, is equally destitute of foundation with the hypothesis formerly very generally believed—that a squadron from Siam introduced the *vomito* into America (o).

"In all climates men appear to find some consolation in the idea that a disease considered pestilential is of foreign origin. As malignant fevers easily originate in a numerous crew cooped up in dirty vessels, the beginning of an epidemic may be frequently traced to the period of the arrival of a squadron; and then, instead of attributing the disease to the vitiated air contained in vessels deprived of ventilation, or to the effects of an ardent and unhealty climate on sailors newly landed, they affirm that it was imported from a neighboring port, where a squadron or convoy touched at during its navigation from Europe to America. Thus we frequently hear in Mexico that the ship-of-war which brought such-or-such a viceroy to Vera Cruz has introduced the yellow fever which for several years had not prevailed there; and in this manner during the season of greatest heat the Havana, Vera Cruz, and the ports of the United States, mutually accuse one another of communicating the germ of the contagion. It is with the yellow fever as with the mortal typhus known by the name of 'Oriental pest,' which the inhabitants of Egypt attribute to the arrival of Greek vessels, while in Greece and Constantinople the same pest is considered as coming from Rosetta or Alexandria." (p.)—"Political Essay on the Kingdom of New Spain," vol. iv., pp. 135–143).

The preceding facts show the fallacy of attempting to decide the date of the origin of yellow fever from the statements of the writers of any one locality; and they also show the impropriety of confounding the period at which a disease has been first described, on account of its having committed ravages at

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(k) "Luzuriaga de la Calentura Biliosa," t. i., p. 7.

(l) In 1741, 1747, 1763.

(m) At Cadiz in 1731, 1733 1734, 1774, 1746, and 1764, and at Malaga in 1741.

(n) In 1744, 1749 ("Tommasini Febbre di Livorno del 1804," p. 65.)

(o) Lobat's "Voyage aux Isles, t. i., p. 73. Respecting the plague of Bouillam in Africa, see Chisholm "On Pestilential Fever," p. 61; Miller, "Histoire de la Fièvre de New York," p. 61; and Volney, "Tableau de Sol de Amérique," t. ii., p. 334.

(p) Pugnet, Sur les Fièves du Levant et des Antilles," pp. 97 and 331.

some particular locality or time, with the period of its first appearance.

From the preceding facts we conclude:

1st. *As destructive and extensive pestilences, resembling yellow fever, have destroyed the aboriginal inhabitants, in former times, when they formed a numerous and comparatively dense population, we are justified in holding that the American Continent has been in past ages subjected to wide spread terrestial, celestial and climatic conditions which were hostile to human life.*

2d. *The experience of the past leads to the belief that such destructive combinations or conditions may occur in the future and cause wide spread destruction uncontrollable by human means.*

3d. *Yellow fever has, since the advent of Europeans in the Antilles, and in North and South America, prevailed at various periods, separated by no uniform intervals, with great violence and during such periods its area has been widely extended, as in* 1878.

4th. *However perfect the sanitary arrangements and complete the quarantine regulations of cities situated within certain parallels of latitude, it is probable that in seasons of great epidemic influence, human agency may fail in the circumvention or arrest of the American plague.*

5th. *In insular, tropical and subtropical America, one of the most essential conditions for the increase of yellow fever, is the accession and crowding of unacclimated persons, natives of the colder regions of America and Europe, in cities or on ship-board. Armies and navies are the great fields of its ravages.*

## YELLOW FEVER COËVAL WITH THE FIRST SETTLEMENT OF THE GULF COAST OF LOUISIANA BY THE FRENCH. HISTORY DURING FRENCH DOMINATION 1684—1763.

Father Christian Le Clerq in his "*account of La Salle's attempt to reach the Mississippi by sea, and of the establishment of a French colony in St. Louis Bay,*" states that in September, 1684, La Salle suffered with a dangerous malady in the Island of St. Domingo, which brought him to the verge of the grave, and the soldiers and most of the crew, having plunged into every kind of debauchery and intemperance, so common in these parts, were so ruined, and contracted such dangerous disorders that some died on the Island and others never recovered. The disease appears to have been of an infectious and contagious character, for Father Christian Le Clerq states farther, that after the construction of the forts in St. Louis Bay, on the coast of the present State of Texas, "the maladies which the soldiers had contracted were visibly carrying them off, and a hundred died in a few days, notwithstanding all the relief afforded by broths, preserves and wine, which were given them." It is evident therefore, that the soldiers, sailors and colonists of the fleet of the celebrated and unfortunate La Salle, which sailed from Rochelle, France, on the 15th of August, 1684, suffered severely from an infectious fever, after reaching the

island of St. Domingo on the 14th of September, and this fever, which came near destroying the commander, was transferred to the shores of Louisiana, and continued its ravages after the foundation of the Fort of St. Louis.

It is probable, therefore, that yellow fever, was coëval with the settlement of the French on the coast of Louisiana.

According to M. Benard de La Harpe, M. d'Iberville, built the fort at Biloxi in the month of April 1699, with four bastions, which he mounted with 12 cannon, and gave the command of it to his brothers Sauville and Bienville, and set sail for France, on the 4th of May, 1699. On the 22d of August, 1701, M. de Sauville died of a fever, supposed to have been yellow fever; and by the same disease, the garrison lost upwards of sixty men, leaving only one hundred and fifty persons in the colony. This circumstance, as well as the poverty of the surrounding soil at Biloxi led Bienville to commence on the 16th of January, 1702, a settlement on the Mobile river, about eighty leagues from the sea.

According to La Harpe, on the 24th of April, 1704, M. Du Coudray Guimont, arrived at Dauphine Island with the Pelican, of fifty guns, from France, bearing provisions and other articles for the colony. He also brought sixty-five soldiers, four priests, two grey nuns, twenty-three poor girls, and four families of artisans. In the month of December a great deal of sickness prevailed in the colony. M. Du Coudray Guimont, lost the half of his crew and was obliged to take twenty men from the garrison to sail the vessel back to France. MM. de Tonti, et le Vasseur, Father Dongé, a Jesuit, and thirty soldiers of the new troops, who had just arrived at the fort, died during the month.

On the 19th of October, 1706, M. de Châteaugué arrived at Mobile from Havana, and reported that M. de Iberville had fitted up a fleet to seize upon Jamaica, and had taken on board at Martinique about 2000 buccaneers, but, hearing that the English had been informed of his intentions, he sailed for Havana, and took on board one thousand Spaniards to invade Carolina. The fever or *pest* (yellow fever) which prevailed at that time, broke out among his troops, of which Iberville died and 800 men.

In the spring of 1718, Bienville selected a site for a town on the banks of the Mississippi, and placed fifty men to clear off the grounds, as the location of the future capital of the province. The ground selected was that which is now covered by the lower portion, or French part, of the present city of New Orleans. Next spring the river overflowed its banks, the new settlement was completely inundated, and the site seemed to present an uncertain location for a city, which remained for several years little more than a military post remote from the settlements. For three years Bienville's headquarters remained at Mobile.

The historian, M. Le Page Du Pratz, who came over with a

colony of eight hundred men in 1718, under the auspices of the West India Company, states that six weeks before the arrival at Cape *François*, St. Domingo, fifteen hundred persons died of an epidemic called the Siam Distemper. Du Pratz gives, however, no facts to show that any of the body of emigrants some of whom settled at New Orleans, and others at Natchez, suffered with yellow fever, for he states that after a passage of three months, including the six weeks spent at Cape François, they arrived at the *Island of Massacre*, since called *Isle of Dauphine*, on August 25th, after a prosperous voyage, no one having died, or having been even dangerously ill. Du Pratz describes the location of the future capital of Louisiana in 1718, as being marked out by a hut covered with palmetto leaves.

As early as the year 1718, in which New Orleans was founded, a company ship had sailed from France with troops and one hundred convicts, destined for Louisiana, but had never been heard of. Toward the close of 1821, there arrived in Louisiana, a French officer who gave some account of this ill-fated vessel. It was now discovered that like the fleet of La Salle, she had missed the Mississippi, and had been driven to the west. Her commander had mistaken the island of Cuba for that of St. Domingo, and had been compelled to pass through the old channel to get into the Gulf. He made a large bay, in the 29th degree of latitude, and discovered that he had lost his way. His misfortune was increased by a contagious disease breaking out among the convicts. Five of the officers thought it less dangerous to land, with provisions for eight days, and their arms, than to continue on board. The first importation of African slaves numbering 500, was made in 1719, a large portion of which was sent to New Orleans, and transferred to the west bank of the river to a plantation owned by a company. The remainder were sold chiefly to the agricultural settlements of the lower Mississippi. We have no accounts of any importation of yellow fever by these or subsequent cargoes of slaves under the French reign.

Benard de la Harpe states that on the 1st of July, 1720, the king's ships, Le Comte de Toulouse, sixty-four guns, commanded by M. de Vatel, after the death of M. de Cafaro, on the 17th of June, and the Saint Henri, seventy guns, commanded by M. Douce, arrived in Louisiana. They brought with them from the island of St. Domingo, a contagious fever, or malady, which carried off a great number of persons every day. After opening several bodies, it was discovered that the disease came from a corruption which engendered a quantity of worms in the stomach.

François Xavier Martin gives a wholly different account of the origin and nature of this malady, and classes it with the Oriental Plague. He says: "Two line-of-battle ships came in the latter part of June, 1720, from Toulon. They were in great distress; Caffaro, the commodore, and most of their crews had fallen victims to the plague, which some sailors in these ships

who had come from Marseilles, had communicated to the others; that city being ravaged by pestilence, brought there by a ship from Lyde, in the Levant. Father Laval, a Jesuit, royal professor of hydrography in the college of Toulon, had by the king's order, taken passage on board this fleet, with directions to make astronomical observations in Louisiana. The chaplains of the ship having died, the father, considering science an object of minor consideration to a minister of the altar, thought it his duty to bestow all his time in administering spiritual relief to the sick, who for a long time were very numerous, and he sailed back with the ships.

Experiment having shown that Europeans could not stand the labors of the field, but sickened and died under the burning suns of Louisiana, and the chilling dews and fogs of night; the Western Company was therefore compelled to introduce African negroes to cultivate the plantations scattered on the bayous and rivers of the delta of the Mississippi and for several years it furnished the agricultural interests of the colony with several hundred annually, which was the origin of African slavery in Louisiana. In 1824, M. de Bienville drew up a code, containing all the legislation applicable to slaves in Louisiana, which remained in force until 1803. It appears that during the year 1781, Louisiana received no less than 1367 negroes from the coast of Africa. We have failed to discover in the writings of La Harpe, Du Pratz, Charlevois, Martin, Gayarré and others, any facts sustaining the view advanced by some, that yellow fever was first imported into Louisiana by the slave ships.

Du Pratz, who visited New Orleans and Biloxi in 1722, states that at the latter place more than five hundred persons died of famine. He states that "the great plenty of oysters found upon the coast saved the lives of some of them, although obliged to wade up to their thighs for them a gunshot from the shore. If this food nourished several of them, it threw numbers into sickness, which was still more heightened by the long time they were obliged to be in the water."

In the beginning of August, 1723, Bienville removed his headquarters to New Orleans. A most destructive hurricane desolated the province on the 11th of September, 1723. The church, hospital and thirty houses were levelled to the ground in New Orleans; three vessels that lay before it were driven on shore. The crops above and below were totally destroyed, and many houses of the planters blown down. Famine threatened the colonists with its horrors, but they were in some degree relieved by the appearance of an unexpected crop of rice. *Disease added in the fall, its horrors to those of impending death.*

In 1724, the white population of Louisiana, says La Harpe, amounted to about 1700 souls, and the black population to 3300. If La Harpe's statement be true, it shows an astonishing diminution of the white population, which in 1721, was computed at 5400.

During the fall of 1726, Périer, a lieutenant of the King's ships, having been appointed commandant general of Louisiana, shortly after, Bienville sailed for France: one of the articles of instruction to Governor Périer ran thus: "*Whereas it is maintained that the diseases which prevail in New Orleans during the summer proceed from the want of air and from the city being smothered by the neighboring woods, which press so close around it, it shall be the care of M. Périer to have them cut down, as far as Lake Pontchartrain.*" These instructions show: That at that remote time, the summer was the sickly season at New Orleans, as it has continued ever since up to the present day; and that to make the city more healthy, the government as far back as 1726, was struck with the necessity of an improvement which was only finally executed to fulfill the necessities of the Federal troops during their hostile occupation in 1863, 1864 and 1865.

In the year 1727, the land on which the city of New Orleans now stands, not being protected by an adequate levee, was subject to annual inundations, and was a perfect quagmire, presenting no better aspect than that of a vast sink or sewer. The waters of the Mississippi and those of Lake Pontchartrain, met at a ridge of high land, which by their common deposits they had formed between Bayou St. John and New Orleans, called the highland of the lepers. To drain the city, a wide ditch was dug on Bourbon street, the third from and parallel to the river; each lot was surrounded by a small ditch, which in the course of time filled up, except the part fronting the street, so that every square instead of every lot was ditched in. The whole city was surrounded by a large ditch, and fenced in with sharp stakes wedged close together. In this way a convenient space was drained. In the language of Gayarré, "musquitoes buzzed, and enormous frogs croaked incessantly in concert with other indescribable sounds; tall reeds and grasses of every variety grew in the streets, and in the yards, so as to intercept all communication, and offered a safe retreat and places of concealment to venomous reptiles, wild beasts and malefactors, who, protected by these impenetrable jungles, committed with impunity, all sorts of evil deeds." Is it any matter of surprise, therefore, that the hot months of summer and autumn were even at this early day, dreaded for their destructive, pestilential fevers.

Governor Périer signalized the beginning of his administration, by the completion on the 15th of November, 1727, in front of New Orleans, a levee of eighteen hundred yards in length, and so broad that its summit measured eighteen feet in width. This same levee, although considerably reduced in its proportion, he caused to be continued eighteen miles on both sides of the city above and below. He announced to the company that he would soon undertake to cut a canal from New Orleans to Bayou St. John, in order to open a communication with the sea, through the lakes, and he mentions the

arrangements which he had made with the inhabitants in relation to the negroes they were to furnish for the execution of this work, which was actually begun, but to which subsequent events put a stop. Thus it is seen that the plan of the canal which now bears the name of Carondelet, did not originate with the Spanish governor.

From a dispatch of Diron d'Artaguette, dated April 23, 1733, we learn that the small-pox was then raging in Louisiana, and that from this cause and famine, the result of the destruction of the crops by a hurricane, the colony was on the eve of being depopulated.

Bienville and Salmon, in a joint dispatch of the 31st of August, 1735, say: "The mortality of cattle is frightful, the drought is excessive and the heat is suffocating. Such hot weather has never been known since the foundation of the colony, and it has now lasted four months without any change."

While the planters were suffering from drought, after having suffered from inundations, the inhabitants of New Orleans were laboring under a strange kind of infection. They could hardly venture out of their houses without being bit by mad dogs. These animals had increased to such an extent, that they had become an intolerable nuisance, and to remedy the evil, the royal commissary, Salmon, ordered them to be hunted down, on certain days, from five o'clock to six o'clock in the morning. He also prohibited negroes and Indians from having dogs, under the penalty for the offender of being sentenced to wear an iron collar.

In 1734, Bienville, was re-appointed Governor of Louisiana.

The force which Bienville assembled in 1739, for the subjection of the Chickasaw Indians, consisted of upwards of 1200 white, and double that number of Indian and black troops. This comparatively large army, unaccountably spent six months in making preparations for its march. In the meanwhile, the troops lately arrived from France became unhealthy, and many died, and the climate had an almost equally deleterious influence on those from Canada. Early the next fall, the regulars and militia of Canada and Louisiana, who had escaped the autumnal disease, were prostrated by fatigue, and Bienville was compelled to confine his call for service, to his red and black men. They were his only effective force. In the Chickasaw war peace was purchased at the price of many valuable lives—estimated at 500, out of 1200 white troops, not slain in battle, but destroyed by the fevers of the climate.

On the third of November, 1763, a secret treaty was signed at Paris, between the French and Spanish Kings, by which the former ceded to the latter, the part of the province of Louisiana which lies on the western side of the Mississippi, with the city of New Orleans, and the island on which it stands.

I have drawn the following conclusions, from data which I have collected from every available source, and purchased and preserved in my library, relating chiefly to the Medical History

of Louisiana, as viewed in connection with its commercial and agricultural development, during the French rule, extending from the settlement in Matagorda Bay, by La Salle in 1684 to the treaty of Paris in 1763, when France ceded to Spain and England her possessions in North America.

1st. Under the French government, the growth of the population of Louisiana, was very slow. According to a census of the inhabitants of the province, three years after the treaty of Paris, it had 1893 men fit to carry arms, 1044 marriageable women, 1375 boys, 1244 girls, in all 5556 white individuals. The blacks were nearly as numerous. The entire population at the end of near 80 years, did not exceed 12,000. The growth of the capitol, New Orleans, had been very slow, and in 51 years after its foundation, the population amounted to only 3190 persons of all colors, sexes and ages.

2d. The commerce of New Orleans, and of the province generally, was exceedingly limited during the French domination.

3d. It is probable that LaSalle and his men suffered with yellow fever, in the West Indies as early as 1684, and they appear to have brought the fever with them to the shores of the Gulf of Mexico. The next visitations of yellow fever were at Biloxi, in 1701 and 1704. Iberville and 800 of his men died of yellow fever in the West Indies in 1706. The historian M. LePage Du Pratz states that six weeks before his arrival at Cape François, St. Domingo, in 1718, fifteen hundred persons died of an epidemic distemper, called the Siam distemper, which was one of the French names for yellow fever. It is probable that yellow fever caused the great mortality amongst the troops and convicts in 1718, on board the French ship, which had lost its reckoning, and missed its destination, and passed to the west of the mouths of the Mississippi.

4th. The navigation of the Mississippi, from the Gulf to New New Orleans, was very tedious before the introduction of steam, and often occupied one month. The commerce of the city was very limited during the French domination.

5th. The record of the diseases of New Orleans during the first half century after its foundation, are very imperfect, and we are not justified in affirming that during this period yellow fever was unknown. We have seen that as early as 1726, eight years after its foundation, the *severe fevers* of the summer and autumn attracted the attention of the government.

6th. There are no facts to show that during this period, yellow fever was introduced by the slave ships. The mortality on these ships was often frightful, and was chiefly occasioned by bad diet, crowding, foul air, scurvy, diarrhœa and dysentery.

7th. The records of the casualties and diseases and surgery of the various armies employed by the French at different times against the Indians, English and Spaniards, are either entirely wanting, or wholly inaccessible to the American stu-

dent; but we have recorded the destruction of the men of the army of Bienville, by fever, during the summer and autumn of 1739.

## HISTORY OF YELLOW FEVER IN NEW ORLEANS, LOUISIANA, DURING THE SPANISH RULE, 1763—1803.

In the archives of the Department of Marine in France, is to be found a memorial, written on the 15th of August, 1763, on the situation of Louisiana, by one Redon de Rassac, who seems to have occupied an official position in the colony. Among the causes which he gives as having operated as obstacles to the prosperity of Louisiana, are the following:

"1st. Under M. De Vaudreuil, half of the married men sent to Louisiana had no children, and were between forty and sixty.

"2d. A good many families are located below the English Turn, in marshy and unwholesome ground requiring incessant labor to make and keep up embankments. To this must be added the deleterious influence of poverty, and every variety of misery, the abjection of the men and the prostitution of the women.

"3d. The officers, addicted to trading, and converting their soldiers into slaves; a shameful system of plunder authorized by the governors, provided they had their share in it; the dissolute morals of the military, drunkenness, brawls and duels, by which half of the population was destroyed."

Francis Xavier Martin states that the fall of 1765 was extremely sickly; D. Abadie died, and the supreme command of the province devolved on Aubry, the senior military officer.

We have no record of the diseases of New Orleans during the year 1765, but yellow fever prevailed in other portions of the province.

Yellow fever prevailed at Mobile in 1765. The most authentic and detailed account of the epidemic was given by Captain Bernard Romans, in his concise Natural History of East and West Florida, and is as follows: "This fatal disease has been followed by the entire ruin of Mobile, and had nearly spoiled the reputation of Pensacola. * * * In the year 1765, arrived a regiment (I think the twenty-first) from Jamaica; with them they brought a contagious distemper, contracted either in the island or on their passage; these men, like most soldiers, lived a life of intemperance, and besides drank the water out of stagnant pools; this and other inconveniences of a soldier's life joined to their arriving in a bad season, swept them off so as scarce to leave a living one to bury the dead." When describing the diseases of Florida, Bernard Romans remarks, "I am persuaded that wherever the yellow fever has made its appearance in the Floridas, it was imported from Jamaica or Havana, as was the case in 1765, which (by the way) was almost universally an unhealthy era, as well in Europe as elsewhere." *Concise Natural History of East and West Florida*, p.12-13, p. 232.

Dr. James Lind, in his *Essay on Diseases Incidental to Europeans in Hot Climates*, has recorded the prevalence of yellow fever in 1765, at Pensacola. He says: "At Pensacola, where the soil is sandy, and quite barren, the English have suffered much from sickness. Some for want of vegetables, died of the scurvy; but a far greater part of fevers. The excessive heat of the weather, has sometimes produced in this place a mortal sickness, similar to that which in the West Indies, goes under the name of the yellow fever; this in the year 1765, proved very fatal to a regiment of soldiers sent from England, unseasoned to such climates, from the unfortunate circumstance of their being landed there in the height of the sickly season; it raged chiefly in the fort, where the air in the soldier's barracks being sheltered from the sea breeze, by the walls of the fort, was extremely sultry and unhealthy.

It is worthy of remark, that during the fatal rage of this fever at Pensacola, such as lived on board the ships in the harbor escaped it.

Pensacola, however, is of late esteemed more healthy than Mobile, where intermitting fevers prevail in the months of July, August and September." "Lately, when a mortal sickness, in the year 1765, prevailed at Pensacola, by which a regiment newly arrived there lost 120 men, and eleven out of twelve of the officers' ladies, who were landed with them, were said to have died; the companies of the men-of-war, lying at a mile's distance from the shore, enjoyed the most perfect health. These ships were the Tartar and Prince Edward, of whose men, three only, who had been on shore, were seized with this malignant fever, and all of them recovered when they got on board. It was likewise remarkable that such gentlemen as were seized with this fever at Pensacola, and carried on board ships, quickly recovered; or at least, by this change of air, the fever, being divested of most of its mortal symptoms, soon assumed the form of an intermittent."

Dr. James Lind also records the fact, that "in the year 1766, sixteen French Protestant families, consisting of sixty persons, were sent at the expense of the English government to West Florida. The ground allotted for their residence was on the side of a hill, surrounded with marshes, at the mouth of the river Scambia. These new planters arrived in winter, and continued perfectly healthy until the sickly months, which in that country are those of July and August. About this time, eight gentlemen (from one of whom I received this account), went to this new settlement to solicit votes for the election of a representative to the General Assembly of that province; where, by remaining but one night, every one of them was seized with a violent intermitting fever, of which the candidate, for being the representative, and another of their number died. The next day seven gentlemen came upon the same business, to this unhealthy spot of ground; but by leaving it before night, they had the good fortune to escape this sickness,

and all continued in perfect health. During the same months, the annual fever of that climate proved so fatal to these French settlers on that unwholesome spot, that of sixty persons, fourteen only survived it; and even those who remained alive, in the September and October following, were all in a very ill state of health, but one of them having escaped the attack of the fever, and most of them dying within a few months afterwards, from the injury it had done their constitutions."

Some writers have fixed upon 1766, as the first visitation of yellow fever in New Orleans.

Martin says: "This year, the province was visited by a disease, not dissimilar to that known as yellow fever. It was severely felt in West Florida, where a number of emigrants had lately arrived. Sixteen families of French Protestants, transported at the expense of the British government on the river Escambia, consisting of sixty-four persons, were almost entirely swept away by the deleterious sickness." History of Louisiana, vol. 1, p. 354.

The learned and accomplished historian, Charles Gayarré, says that in 1766, Ulloa, "ordered a census to be made of the white population of Louisiana and the result was found to be 1893 men able to carry arms, 1044 women, married or unmarried, 1375 male children, and 1240 of the other sex. Total 5562. The blacks were about as numerous. But the population was somewhat reduced by an epidemic which prevailed in that year (1766), and which, it is said, closely resembled the disease now so well known here under the name of yellow fever." Hist. of Louisiana under French Domination, vol. ii, pp. 133, 134.

The 17th and 18th of January, 1768, were the two coldest days that had ever been known in Louisiana. All the orange trees perished a second time throughout the colony as in 1748. In front of New Orleans, the river was frozen on both sides to thirty or forty feet from its banks.

Norman, in his "*New Orleans and its Environs*, 1845," says that "The first visitation of yellow fever was in 1769. Since that time it has continued to be almost an annual scourge. It was introduced into this continent, in the above named year, *by a British vessel*, from the coast of Africa, *with a cargo of slaves*."

We have seen that no allusion to the introduction of yellow fever or any infectious disease by the slave ships is found in the preceding colonial records. Norman does not cite authority for his statement, which would place the first epidemic of yellow fever in the year 1769. On the other hand, Dr. Thomas fixes the first invasion of the fever in New Orleans, in 1796, or about twenty-seven years later. Essai sur la Fèvre Jaune d'Amerique, p. 70.

Dr. Daniel Drake, says, "This however is a mistake as we shall presently see. Throughout the whole period, the com-

merce of the city was exceedingly limited and up to the year 1788, seventy-eight years after the first settlement, the population amounted to only 5338, including negroes. On the whole we may conclude that throughout the period mentioned, the town suffered but little or at all from that malady. Since the year 1790, it has become gradually more frequent and formidable; but throughout the first twenty-seven years, the accounts of its invasion are meagre and unsatisfactory." Principal Diseases of the Valley of North America, 1854, pp. 201, 202.

Louisiana although ceded to Spain in 1763, was not under the entire control of that power before the 18th of August, 1769, when O'Reilly took formal possession of the country.

One of the first acts of O'Reilly, was an order for a census of the inhabitants of New Orleans. It was executed with great accuracy. It appeared that the aggregate population amounted to 3190 persons, of every age, sex and color. The number of free persons were 1902; 31 of whom were black, and 68 of mixed blood. There were 1225 slaves, and 60 domesticated Indians. The number of houses were 468; the greater part of them were in the third and fourth streets from the river, and principally in the latter.

In 1778, one of the most serious afflictions of the province in this year, as in the preceding one, was the small-pox, which proved very fatal in New Orleans, and on the plantations above and below. It appears to have been, for many years, in Louisiana, the disease most prevalent and most feared. Hurricanes seem also to have been one of its chief scourges.

The army of 1400 men, assembled by Galvez for an expedition against the English, suffered considerable loss, towards the end of the summer of 1779, from the diseases incident to the climate; and when the Spaniards came in sight of Fort Manchac, situated at a distance of about one hundred and fifteen miles from New Orleans, disease and the fatigues of the journey had caused a diminution of more than one-third of their number.

The winter of 1784, was of extraordinary severity. On the 13th of February, the whole bed of the river, in front of New Orleans, was filled up with fragments of ice, the size of most of which was from twelve to thirty feet, with a thickness of two or three feet.

One of the first measures of Miro's administration, which succeeded that of Galvez, in 1785, was of a most remarkable character, and charitable in its purpose, namely, the foundation of a *Hospital* for *Lepers*. There being a number of persons in the Province of Louisiana, afflicted with *leprosy*, the Cabildo erected an hospital for their reception, in the rear of the city, on a ridge of high land, between it and Bayou St. John.

There are no facts to show the precise nature of the leprosy of Louisiana, of those days, but it may with reason be supposed, that several affections were confounded with the true leprosy of the ancient Egyptians, Hebrews and Greeks, as

constitutional syphilis, elephantiasis and the yaws of the African race. I have upon a former occasion, presented to the New Orleans Medical and Surgical Association, the results of my investigations into the History of Leprosy in the Southern States, and the paper has been published in the New Orleans MEDICAL AND SURGICAL JOURNAL.

According to the census taken by order of Galvez, New Orleans contained in 1785, 4980 inhabitants.

Much light would be thrown upon the history of yellow fever and other diseases, in New Orleans, were it possible to recover the records of the Royal Hospital of New Orleans, for which there was expended in 1785, the following sums: a comptroller $600; commissary $300; steward $480; physician $600; chaplain $480; first surgeon $600; assistant surgeon $360; mate $192; two minor surgeons $360; apothecary $480; apothecaries' attendants and cook $964; provisions and medicines $18,000. The total expenses of the government of Louisiana, were $449,389. Whilst the expenses of North Carolina, with a population of 377,721, was only $56,930, or fifteen cents per head; those of Louisiana, with her 27,584 inhabitants (14,217 whites, 1203 free colored and 16,594 slaves), were sixteen dollars and fifty-five cents.

The summer of 1787 was marked by fevers which frequently and easily assumed a malignant type. There was also an epidemic catarrh, from which few were exempt, and by which many were seriously incommoded. The small-pox infested the whole province, and those whom fear prevented from being inoculated, became the victims of their prejudices. All those who were attacked by the contagion, either died, or were dangerously sick. The inoculation was fatal only to very few, but this was enough to confirm in their systematic opposition those who declaimed against this wise and humane practice.

After the massacre by the negroes, on the night of the 23d of August, 1791, of the French of the Island of Hispaniola, a portion of the white inhabitants fled to Louisiana.

Dr. Daniel Drake, who visited New Orleans and instituted personal inquiries, states, that the first invasion of yellow fever in New Orleans, of which he had an authentic account, was in the year 1791. Dr. Drake's informant, Richard Relf, Esq., one of the most venerable citizens of New Orleans, soon after his arrival experienced an attack, and three of his fellow lodgers, fell victims to the fever. After his recovery he saw many cases, and in subsequent years became so familiar with it that he could not be mistaken as to the character of the disease. *The Principal Diseases of the Valley of North America*, 2d series, 1854, p. 201.

On the 9th of May, 1794, Don Francisco Louis Hector, Baron de Carondelet, gave notice of his intention to dig a canal, which carrying off the water of the city and its environs into one of the branches of the Bayou St. John, would rid New Orleans of

the stagnating ponds which rendered it sickly, and the multitude of musquitoes, which harrassed the inhabitants.

Baron Carondelet designed the canal to run from the ditches, that ran along the ramparts, with which the town was encircled, to Bayou St. John, and thus to drain the putrid waters, stagnating around the city, and producing those epidemics which were so fatal to its prosperity.

In the month of October, 1795, Baron Carondelet by a publication in *Le Moniteur de la Louisiane* (the only periodical paper published in the province during its subjection to Spain) brought to view the future grandeur of New Orleans, and announced that in five days more the Colonial Government would complete the canal; and in another publication on the 23d of November, draws attention of the inhabitants to the commercial facilities afforded by the canal, and to the *marked diminution of Mortality during the preceding three months.*

The great sanitary problem of New Orleans, drainage, engaged the attention of its governors, for sixty-four years, before the practical and valuable experiment of Baron Carondelet.

In 1796, the canal behind the city was completed, and a number of vessels went through it to a basin, which had been dug near the ramparts.

## THE EPIDEMIC YELLOW FEVER OF 1796, NOT THE FIRST VISITATION OF THIS DISEASE IN NEW ORLEANS.

According to Charles Gayarré, "New Orleans was visited, it is said for the first time, with the yellow fever in the fall of the year 1796. That autumn proved besides very sickly in every other way. The Intendant Ventura Morales, in a despatch of the 31st of October, speaks of it in the following terms: An epidemic which broke out in the latter part of August and which is prevalent to this day, has terrified and still keeps in a state of consternation the whole population of this town. Some of the medical faculty call it a malignant fever, some say that it is the disease so well known in America under the name of Black Vomit, and finally others affirm that it is the yellow fever, which proved so fatal in Philadelphia in the autumn of 1794. Although the number of deaths has not been excessive, considering that according to the parish registry, it has not yet reached two hundred among the whites since the breaking out of the epidemic, and considering that many died from other diseases, still it must be admitted, that the loss of lives is very great, because although those who died out of the precincts of the town, and the protestants who perished (and they were numerous), have not been registered, nevertheless the number of deaths exceeds by two-thirds those which occurred in the same lapse of time in ordinary years. A peculiarity to be remarked in this disease is that it attacks foreigners in preference to the natives, and what is singular, it seems to select the Flemish, the English, and the Americans, who rarely recover,

and who generally die the second or third day after the invasion of the disease. Such is not the case with the Spaniards and the colored people, with whom the recipe of Dr. Masdevall has produced marvellous effects." History of Louisiana, Spanish Domination, p. 375.

A small pamphlet of 48 pages was published in New Orleans, in 1796, with the following title: "*Medicamens et préces de la Méthode de Mr. Masderall, Docteur Médécin du Roi d'Espagne, Charles IV, pour guéin toutes les Maladies Epidemiques, putrides et Malignes, fiévres de différents genres, &c., et pour en preserver divises en paragraphes, et en numéros correspondens à l'usage des familles d pourvues de Médécins. Prix 4 escalins broché, Chez Louis Duclot. Imprimeur a la N'lle Orleans*, 1796, *avec permission du Gouvernment.*"

This work is dedicated to Francis Louis Hector, Baron de Carondelet, who was at that time the Governor of Louisiana.

In the preface allusions are made to the efforts of Baron Carondelet in improving the health and extending the commerce of the city, in causing the construction of a canal. In the first paragraph it is stated that Doctor Joseph Masdevall, had in the year 1783, observed the epidemics of putrid and malignant fevers, which had desolated Catalogne, by direction of Charles III. This account was published in Madrid in 1786. This pamphlet, published in New Orleans in 1796, and which has been regarded as one of the earliest, if not *the earliest medical work* issued in Louisiana, appears to consist chiefly of extracts from the work of Dr. Masdevall, published ten years before in Madrid. After careful examination of this small medical tract, I have discovered no facts relating to the origin, nature and spread of the yellow fever of 1796 in New Orleans. Tartar emetic entered largely into the composition of the various febrifuge remedies recommended by Dr. Masdevall.

Martin makes no allusion to the prevalence of yellow fever in the summer and fall of 1796, but says: "the fall of (1797) this year was very sickly in New Orleans, and the city was visited by the yellow fever." History of Louisiana, vol. ii., p. 147.

Of the origin of the epidemic of 1796, Dr. Thomas (Essai sur la Fièvre Jaune, p. 70), gives the following account:

"It is said that yellow fever had never been observed in New Orleans, before 1796. Up to that time the city was of no great extent, and was surrounded by trees, which, by their shade, prevented the putrefaction of the water covering the ground at their roots, and which absorbed to a great degree (a quality which they are known to possess), the deleterious miasm. The Spanish Baron Carondelet, then governor of Louisiana, caused a number of works to be executed about this time, of which the principal were, 1st, the construction of a canal two miles long, which still bears his name, and terminates in New Orleans in a basin (large enough to contain a great number of small vessels from 25 to 100 tons burden, dug exactly in the place where the old cemeteries were situated), and

at the other end in a small river emptying into Lake Pontchartrain; 2d, fortifications surrounded by ditches; 3d, a clearing away for a considerable distance of the trees which surround the city. This laid bare a considerable extent of marshy land, which dangerously influenced by the solar heat, soon disengaged effluvia in abundance.

These works, and particularly the canal, were finished in 1796, as is shown by the records of the city, from which I have obtained these details; and it is exactly, at the time, that the first epidemic of yellow fever occurred, which carried off at its inception, all the laborers engaged on the works, as eye-witnesses testisy. The disastrous results of disturbing the soil, have been demonstrated anew, in the epidemic of Natchez, 1819. Dr. Prouens, a well-educated physician, who practices medicine, then wrote on this subject to the Medical Society of New Orleans (of which he is a correspondent), that the obvious cause of this epidemic was not an importation of it by the river, as the contagionists contend; for the mortality began to show itself in a place quite remote from the port, and in the immediate vicinity of some very considerable excavations, which had been made a short time before for the purpose of levelling the streets. The old inhabitants of St. Domingo have assured me that many analogous examples were known to have occurred on that island, from the same cause. It will be seen, in reading the description of the epidemic of 1822, that excavation of the earth may be considered as one of the causes which fixed its limits." The preceding opinion advanced by Thomas, that the yellow fever of 1796, was of local origin, appears at that time to have been contested, for the late Professor Carpenter (Sketches from the History of Yellow Fever, p. 13), copying from the *Louisiana Courier* for November, 1820, says "it was traced to a vessel which had brought it."

The view held by Thomas, that the *(so-called) first epidemic* of yellow fever in New Orleans, was referable in its origin and causation to local causes, and especially to an extensive disturbance of the soil, found an ardent and able advocate in the late Dr. Edward H. Barton, whose views were fully unfolded in the *Report of the Sanitary Commission of New Orleans, in the Epidemic Yellow Fever of* 1853. Dr. Barton says, "I wish to be understood distinctly as stating that since 1796-7, *to the present time, there has been no great epidemic yellow fever in this city, without an extensive breaking up, disturbance and exposure of the original soil of the country; and that the extent and malignancy of the disease has been pretty much in proportion to the extent of these exposures.*"

In connection with the preceding speculations, it is worthy of note, that the canal Carondelet was commenced in the month of June, 1794; that in the autumn of 1795 there was a navigable canal remote from the city by way of the lakes to the sea, and that the canal and basin were in successful operation in 1796.

Dr. Bennet Dowler, who appears to have endorsed to a certain extent the opinions of Thomas and Barton as to the local origin of the epidemic of 1796, is manifestly in error when he states that "*the health of New Orleans anterior to the appearance of yellow fever (in* 1796), *was unsurpassed by any city in America;*" for without recapitulating the facts which we have recorded to show that pestilential fevers had afflicted the city at various times, as well as small-pox and leprosy, the incorrectness of his statement is shown by the following facts:

In 1787, the population of New Orleans was 5284, with a total mortality of 338; one death in 15.04 inhabitants, and a ratio per thousand of population (Millesimal mortality) of 63.92.

In 1796, the population of New Orleans was 8756, with a total mortality of 638; one death in 13.57 of inhabitants, and a ratio per 1000 of population (Millesimal mortality) of 72.86.

It will be seen from the preceding statistics, that in 1787, when we had no record of an epidemic in New Orleans, the mortality reached the fearful proportion of one in fifteen of the inhabitants, and in 1796, this heavy mortality was still farther increased by the yellow fever to one death in 13.57 inhabitants.

The mortality of both these years 1787 and 1796, was in relation to the actual population, far heavier than that of the past year 1878, which will be memorable for its epidemic of yellow fever, which stands as third in the list of great epidemics in New Orleans, from its foundation in 1718 to 1879.

Thus the total mortality for the year 1878, was 10,318, of which 8062 were whites, and 2256 colored, making of all colors one death in about 20 inhabitants; or 50.17 per 1000 of population; or 55.32 per 1000 of white population, and 39.13 per 1000 of colored population.

The number that died of yellow fever, was 4046, of which 3863 were whites, and 183 were colored; 4056 deducted from 10,318 would give for all other diseases 6272; making of all colors a ratio of mortality 30.02 per 1000 of population, or 28.81 per 1000 of white population, and 35.95 per 1000 of colored population. The ratio of mortality per 1000 from yellow fever was 19.30 per 1000 population; and from malarial fevers 3.77 per 1000 of entire population.

In the light of such facts it is but just to hold the view that New Orleans has been subject to pestilential fevers at various times from its foundation, and that the opinions as to its wonderful healthfulness from its first foundation in 1718 to 1796, the date of the *so-called First! Epidemic* of yellow fever, are mere opinions without foundation in fact. And we attach little or no weight to the assertion of Bennet Dowler and many other writers of less note, that whilst New Orleans from its foundation had been closely connected by geographical position, commercial intercourse, language and governments, with both insular and continental America, where yellow fever had prevailed for centuries, under Spanish, French and English rule,

it had yet always remained exempt from yellow fever up to the year 1796.

We have seen that Martin states that yellow fever prevailed in 1797. M. Victor Debouchel, in his history of Louisiana, published in 1841, says that the yellow fever desolated New Orleans in the following years, namely: 1767, 1797, 1802, 1810, 1814, 1818, 1822, 1824, 1827, 1831, 1835, 1837.

Dr. Carpenter states that in 1799, "there was what was considered as proof of its importation." Sketches from the History of Yellow Fever, p. 14. Dr. Carpenter refers to the Louisiana Courier of November 20th, 1820, as the source of this surmise. Dr. Dow, of New Orleans, in his visit to Philadelphia in 1800, informed Dr. Benjamin Rush, that the natives and old citizens of New Orleans, who retired into the country during the prevalence of yellow fever in that city the year before 1799, were often affected by it, whilst all such persons who did not change their residences escaped it (Rush Inquiry, 10, 126).

In a dispatch of the 25th of July, 1799, Morales informed his government of the death of Gayoso, in the following terms: "On the 18th inst., it pleased God to put an end to the life and government of Brigadier-General Don Manuel Gayoso de Lemes. He died of a malignant fever, of the nature of those which prevail in this country during the summer, and the dangerous character of which was known only a few hours before it terminated fatally. He had no time to lose in fulfilling the last duties of the Christian and in making his testamentary dispositions."

In a remarkable memoir submitted on the 15th of September, 1800, to the First Consul of the French Republic, by M. Pontabla, he says that, "Louisiana cannot dispense with the slave trade. The excessive heat prevailing during the five months in which the hardest works are to be executed, on the plantations, does not allow of the use of free and white labor, and renders the blacks indispensable."

In March, 1801, Baron de Carondelet, in an official document, set forth the importance of improving the topography of the city, so as to drain off in Canal Carondelet, the stagnant waters which abounded "near the city," and which he regarded as "*the cause of much mortality*," a measure which he says would put an end to *pestilential fevers* (Martin, vol. ii, pp. 176, 177), in which category he doubtless included yellow fever, which a few months later occurred as an epidemic.

Dr. Snead, of New Orleans, detailed the mode of treatment and critised it as inefficient.

In 1802, the government of the United States applied to the Spanish government for permission to establish a Marine Hospital at New Orleans, for American seamen, many having died there in a destitute condition.

Dr. Rush represents 1803, as a year exempt from epidemic yellow fever in the United States, Charleston excepted, it prevailed however in New Orleans.

One of the first acts of the colonial prefect, Laussat, who arrived at New Orleans on the 26th of March, 1803, was to examine the fortifications, which eleven years before, had been erected by the Baron de Carondelet, and in his report to Minister Decres, he says: "It has lately been proposed to the King of Spain to razee or at least greatly to reduce these works, as being useless or even mischievous, because the fevers which every year, carrying off the most valuable portion of the population of this city, date from the time when there were dug round it those ditches which are always full of stagnating water."

In a work entitled "Vue de la Colonie Espagnole du Mississippi ou des Provinces de Louisiane et Florida Occidental en L'Anné, 1802. Par un Observateur Résident sur Les Lieux. B. Duvallon, Editeur, Paris, 1803, an accurate description of yellow fever is given, and the statement is made that it had prevailed during the summer and autumn in New Orleans, during the preceding six or seven years, pp. 84–98. According to this writer yellow fever prevailed in 1794, 1795, 1796, 1797, 1798, 1799, 1801. The writer of this work, whilst directing attention to the peculiar topography of lower Louisiana, with its flat depressed surface, and changeable climate, states that the country was comparatively healthy for both whites and blacks, whilst on the other hand, New Orleans, was, during the months of July, August, September and October, ravaged by the yellow fever. He says: "The city of New Orleans has for several years during the months of July, August, September and part of October, been afflicted with a species of malignant fever of the gravest form. The symptoms and accidents of this disease, varied to such an extent, that the physicians of the city, consisting of eight or ten surgeons, with a few exceptions without letters, were entirely ignorant of the methods of cure in this destructive plague." This malady has during the past six or seven years, made ravages almost every summer upon New Orleans; but has not affected the country to any extent, where it is known only by or through communications from one point to another; and as the consequent of such communications." After giving an accurate description of the disease, the author thus discusses its origin: "But why should this disease be endemic in the city and not in the surrounding country? The causes which clearly corrupt the air breathed in New Orleans, and during the heat of summer, render it susceptible of being impregnated from impure and fatal miasms, are the excessive amount of filth distributed in the town, along the levee, in the streets, in the vacant lots, and even in the court yards of many houses, where evidently the slops are thrown, and from whence they are not taken away, except partially, and at long intervals; the accumulation of pools of stagnant water mixed with ordure (excrements, both animal and human), within the confines of the city: the accumulation of large heaps of putrefying infectious matters in the middle of the unpaved streets, and in many other places.

The high brick houses that have been erected during several years past, preserve and communicate more dampness, in a locality that is always damp, and also stop and prevent the free circulation of the air. The air is thus rendered stagnant, and the poison is thus accumulated in the lower atmosphere. The ditches surrounding the fortifications erected several years ago, are filled with stagnant water, which, during the heated term, exhale fœtid vapors, which were unknown before the digging of these trenches or canals around the town.

To these causes of insalubrity, from which all persons suffer, and the existence of which no one upon examination will deny, another may be added, to which the oldest people of the city, attribute great influence, and even the origin of the disease. As in a matter so important to the preservation of humanity, nothing should be neglected, we will therefore cite this cause, or explanation, without adopting or rejecting it, until experience and observation shall have dissipated all uncertainty. It is held by some, that this disease has only been known in New Orleans, during the past six or seven years, or the period at which dates the great extension of American commerce to New Orleans, and it is inferred that as this disease was already spread in the North of America, before this period, as is known from the ravages which it made in Philadelphia and other places in 1793, that it has been brought here by the Americans, who are in fact its principal victims. Without deciding this question I will say, that it is notorious and an established fact that this fever has spread during the past ten years in the different cities of North America, and especially in Philadelphia and New York, where it appears to have originated, and even where it received the name which it bears, and that since its first appearance it makes annual ravages during July, August, September and part of October, so as to render those cities almost desolated, and isolated during the violence of the malady. In these towns the disease exerts its chief violence upon Americans, rather than strangers, who are found there in large numbers. I believe that the yellow fever is endemic in the United States, and I do not hold that it is only twelve or fifteen years since the disease was known."

The same writer states, that the sick in the country, were most generally brought into New Orleans for treatment, and this custom converted the city into a vast hospital, and tended to introduce the germs of disease.

It appears that at this time, the practice of medicine in New Orleans, was very lucrative.

C. C. Robin, in his valuable work,* records the observa-

* Voyages dans l'interieur de la Louisiane, de la Floride Occidentale et dans les Isles de la Martinique et de Saint Domingue, pendant les années 1802, 1803, 1804, 1805 et 1806. Contenant de Nouvelles Observations sur l'Histoire Naturelle la Geographie, les Moeurs, l'Agriculture, le Commerce, l'Industrie et les Malades de ces Contrées, particulierement sur la Fièvre Jaune, et les Moyens de les prévenir, etc. Par C. C. Robin, autrè de plusieurs ouvrages sur la Literature et les Sciences. 3 vols. A Paris, 1807, vol. 1, pp. 145, 200.

tion, that the pulse gives no index of the severity of the attack of yellow fever. He describes accurately the symptoms of the disease, and states, "There is generally repeated vomiting of *black blood*. Very often again, as is said by Father Labat, the people who suffer but little from pain in the head expire suddenly. In New Orleans during the summer of 1805, several English and Anglo Americans have died in this sudden manner. One among them, attacked by this malady, expired at once on the levee, holding in his hand a piece of melon which he was eating. His skin was congested, and his countenance animated. A physician who was asked by a citizen to pass by his house, and visit his wife, who was dangerously ill, said to this party, after looking at him, 'And you, sir, how do you feel?' 'Very well!' 'Very well!' replied the physician, 'let me feel your pulse. You are also sick, and very dangerously so; go without loss of time to bed; I will follow you!' A few days after, this man died."

Robin states that the yellow fever prevailed with destructive effects in New Orleans in 1805. He also records the fact that at this early date calomel in large doses was employed in the treatment of this disease.

Whilst alluding to the fact that yellow fever had prevailed during several years preceding his visit to New Orleans, and reaffirming the observation that strangers, and especially the Americans, from their habits of life, and use of strong drinks, were more subject to the disease than the Spaniards and the natives (Creoles), French and negroes; on the other hand he does not give any specific date as to the first appearance of this disease in New Orleans. Robin affirms that yellow fever was unknown in the early history of New Orleans, when only a few small cottages neatly white-washed, occupied the commodious squares, and whilst the rising town was surrounded by forest trees. He refers the origin of the disease to several causes, as the clearing of the surrounding forests, the exposure of the marshy soil, the accumulation of filth in the city, and the building of lofty houses, which obstructed the circulation of the air, and at the same time increased the heat by reflection of the rays and absorption. Robin quotes Father Labat to prove that yellow fever had been long known in the West India Islands.

M. Perrin Du Lac, in his "*Voyage dans les Deux Louisianes, et chez les Nations Sauvages du Missouri par les Etats Unis, l'Ohio, et les Provinces qui le bordent, en* 1801, 1802, *et* 1803: A. Lyon, An. xiii, 1805;" alludes to the prevalence of yellow fever in the American cities as early as 1745, and to its ravages in Philadelphia and New York in 1794. With reference to the question of contagion and importation, M. Perrin Du Lac appears to incline to the opinion that the disease originated in those cities, chiefly in and about the filthy wharves and in low ill-ventilated tenement houses.

He states that for several years preceding his visit to New Orleans, yellow fever had prevailed, and he attributes its origin to the filthy condition of the streets and houses, and the putrefying filth and garbage about the markets. He directs attention, also to the fact that the negroes in New York and Philadelphia were comparatively exempt from the ravages of the disease, and also that the Creoles, French and Spaniards were but infrequently attacked by the disease in New Orleans, which proved so fatal to Europeans and Americans (pp. 11–19, 392–396).

The following conclusions may be drawn from the preceding outline of the History of Yellow Fever in Louisiana, during the Spanish rule, 1764–1803:

1st. Whilst New Orleans suffered annually with malignant malarial fevers, similar in all respects to those known at the present time as intermittent, remittent, congestive, pernicious, paroxysmal, paludal, marsh, swamp and malarial fevers, yellow fever does not appear to have attracted much attention in this city before the year 1796, and consequently we find but few allusions to its existence in the works of the earliest travelers through Louisiana.

2d. During the Spanish rule, as also during the preceding French dominion, New Orleans and the entire region named Louisiana, was without medical journals, and produced no native medical works. When neither medical writers nor books existed, it would be absurd to affirm that the mere absence of records, demonstrated the absence of any specific disease as yellow fever.

3d. The fall of 1765, was very sickly in New Orleans, as well as that of 1766, when the population of the city was reduced, by an epidemic, which is said to have closely resembled the disease.

4th. A careful consideration of all the testimony presented in the preceding historical sketch, will show that yellow fever did not appear for the first time in New Orleans in 1796. It was certainly present in 1791, 1794 and 1795.

5th. Throughout all her past history, up to the present moment, the grand sanitary problems, of New Orleans, were effective drainage, efficient police of private premises and public thoroughfares, the daily and rapid removal of all offal and excrementitious matter, the proper elevation of and construction of houses, free ventilation: abundant water supply: the proper distribution of the population, so as to avoid overcrowding.

6th. Many writers, attributed the origin of yellow fever, to the stagnant and foul fermenting putrid waters of the ditch, canal or bayous surrounding the wall of the city, and referred its first advent to the extensive operations of Baron Carondelet.

7th. Whilst we might regard the reference of the origin of yellow fever, to the extensive disturbance of the soil, in the construction of the Canal Carondelet, and the excavation of the

basin on the borders of the rampart, as an example of special pleading; on the other hand it would be equally unphilosophical in the absence of well ascertained facts, and carefully recorded statistics, to attribute the repeated prevalence of yellow fever in New Orleans, since 1764, solely to the increase of population and commerce during the Spanish rule.

That the commercial relations of New Orleans, was greatly extended under the Spanish rule, is evident from the fact, that in 1802, two hundred and fifty-eight vessels (170 American, 97 Spanish and 1 French) with a tonnage of 23,725 tons, entered the Mississippi; and in the same year, there sailed from the Mississippi 265 vessels (158 American, 104 Spanish, 3 French) with a tonnage of 31,241 registered tons.

As the city during both French and Spanish dominion, was without quarantine regulations, and without any organized board of health, without any medical or scientific associations, or journal, and with only a small gazette, it is impossible either to affirm or deny, that the statement quoted by Dr. Carpenter, from a newspaper article published in 1820, to the effect, that the disease was brought by a vessel, may not have contained the entire solution of the mode of the origin of the epidemic of 1796. Without doubt, the workmen engaged upon the canal running through a low marsh and cypress swamp, were subjected to the destructive effects of malaria; and the inhabitants in the immediate vicinity suffered from diseases of this class, in increased numbers and intensity just after the exposure of the newly drained marshes to the action of the sun; but so far from breeding sickness in the city itself, the construction of the canal, was the first great sanitary measure projected and executed for the improvement of the health of New Orleans, by draining the stagnant and putrid waters of the moat, surrounding the city and also the neighboring ponds.

8th. The rapid increase of the population of New Orleans, under the Spanish rule, and the great influx of strangers from the United States, and from Spain, Arcadia and the Canary Islands, formed a most important condition for the spread of yellow fever when once introduced. In 1769, the total population of Louisiana amounted to only 13,538; and that of New Orleans to 3190; whilst in 1803, total population 49,473; of New Orleans, 8,056. That is, during the short period of 34 years, the population had increased near three-fold. As the yellow fever, attacked chiefly Americans, and as large numbers of American ships entered this port annually; and as yellow fever ravaged during this period, Philadelphia and New York, the contagionists of New Orleans had plausible grounds for accusing the Americans of introducing the disease.

9th. A plausible and apparently philosophical argument was advanced for the foreign importation of yellow fever, during the Spanish domination, by increased commerce and increased immigration; but the older and best substantiated theory was that the disease was due to climatic and terrestial

causes, and more especially to heat, moisture, and putrefying animal and vegetable matters, and stagnant water and air. According to the latter view commerce and immigration merely furnished new material for the fever, which was the result of the horribly filthy condition of the streets and drains and yards and privies of the city.

## OUTLINE OF THE HISTORY OF YELLOW FEVER IN NEW ORLEANS, DURING THE DOMINATION OF THE UNITED STATES, 1803, 1878.

On the 20th of December, 1803, the United States commissioners and forces entered New Orleans and took possession of Louisiana, in accordance with the treaty between Napoleon Bonaparte and the Government of the United States.

In 1803, New Orleans had a military hospital and a charity hospital, with a few houses, yielding to it a revenue of about $1500 a year.

1804. The yellow fever had in the autumn of this year, been very fatal in New Orleans, and in connection with other remarks on this subject, Governor Claiborne, in a message to the Legislative Council, on the 14th of December, 1804, called attention of that body, to a plan devised by Jefferson, to prevent the recurrence of such a calamity. Referring to the probable growth of New Orleans, the President said:

"The position of New Orleans, certainly destines it to be the greatest city the world has ever seen. There is no spot on the globe, to which the produce of so great an extent of fertile country must necessarily come. It is three times greater than that on the eastern side of the Alleghanies, which is to be divided among all the seaport towns of the Atlantic States. In the middle and northern parts of Europe, where the sun rarely shines, they may safely build cities in solid blocks, without generating disease; but under the cloudless skies of America, where there is so constant an accumulation of heat, men cannot be piled one on another with impunity. Accordingly we find this disease confined to the solid built parts of our towns, and the parts on the water side, where there is the most matter for putrefaction, but rarely extending into the thin built parts of the towns, and never into the country. In these latter places, it cannot be communicated. In order to catch it, you must go into the local atmosphere, where it prevails. Is not this then a strong indication, that we ought not to contend with the laws of nature, but should decide at once that all our cities should be thinly built?"

After these introductory observations, the President expressed the opinion that in building cities, in the United States, the people should take the checker-board for their plan, leaving the white squares open and unbuilt forever, and planted with trees. "As it is probable," he observed to Claiborne, "that New Orleans must soon be enlarged, I enclose this same

plan for consideration. I have great confidence that however the yellow fever may prevail in the old part of the town, it would not be communicated to that part which should be built on this plan, because this would be like the thin built parts of our towns, where experience has taught that a person may carry it after catching it in its local region, but can never communicate it out of that. Having very sincerely at heart that the prosperity of New Orleans should be uncheckered and great faith founded, I think on experience, in the effect of this mode of building against a disorder which is such a scourge to our close built cities, I could not deny myself the communication of the plan, leaving it to you to bring it into real existence, if those more interested should think as favorably of it as I do. For beauty, pleasure and commerce, it would certainly be eminent."*

Unfortunately this plan of Jefferson has not met with favor in the gradual enlargement of New Orleans.

1805. In July, 1805, after James Pitot had resigned his commission as mayor, and Watkins had been appointed in his place, the new city council went actively to work and to plan improvements. It passed resolutions requesting the evacuation of the forts around the city, which were occupied by the troops of the United States, their speedy destruction, and the filling up of the ditches, which surrounded the forts of New Orleans. Claiborne partially complied with their request. In a communication of the 2d of August, he said to them, "I am so strongly impressed with the opinion that the stagnant water which accumulates in the old fortifications must prove injurious to the health of the city, that I cheerfully consent to the levelling of all of them, except those of Forts St. Charles and St. Louis. These two forts are garrisoned by troops of the United States, and cannot be evacuated but in pursuance of orders emanating from the President. Desirous, however, of coöperating with the city council in all measures which may conduce to the health of the city, I have no objection to the draining of the ditches in the vicinity of St. Charles and St. Louis, under an impression that it can be done without injury to the works.

1806. The population of Louisiana was 52,998; slaves 23,574; free people of color 3355; whites 26,069; of these, at least 13,500 were natives of Louisiana, for the most part descendants of the French; about 3500 natives of the United States, and the residue Europeans. In the beginning of July, Claiborne departed from New Orleans, partly to avoid a residence in the city during the sickly season.

1808. In the month of March, the City Council requested the Governor to consent to the demolishing of Fort St. Louis, and the filling up of the trenches surrounding it, "in as much as it impeded the communication between the town and the

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* Executive Journal vol I, p. 76 History of Louisiana, The American Domination: Charles Gayarrè, 1866: p. 36-37.

suburb St. Mary, and the trenches were receptacles of stagnant water and all manner of filth which engender disease." Claiborne consented to this request. Executive Journal, p. 181, vol. 3.

1809. On the 2d of November, 1808, the Secretary of War directed General Wilkinson to take measures, without delay, for assembling at New Orleans and its vicinity, as large a portion of the regular troops as circumstances would allow. General Wilkinson reached New Orleans on the 19th of April, 1809. The force in the city was a little less than 2000 men, and one-third of it was on the sick list. In order to promote the health of the troops, he moved them out of the city to Terre aux Bœufs.

The troops had hardly been three weeks encamped at Terre aux Bœufs, when General Wilkinson was peremptorily ordered to embark his whole force, and proceed to the high grounds in the rear of Fort Adams and Natchez. A difficulty in procuring boats, and other circumstances, did not allow the troops to begin ascending the river before the fifteenth of September; their progress lasted forty-seven days; during which, out of nine hundred and thirty-five men, who embarked, six hundred and thirty-eight were sick, and two hundred and forty died. Scarcely one hundred men remained fit for duty, upon their arrival at Fort Adams and Natchez. The diseases which had so terribly thinned their ranks, were fevers and a malignant scurvy and dysentery. The scurvy was a most loathsome and fatal form of disease, which rendered its victims to a mass of living putrefaction. Of the 2000 troops, 764 died, and 166 deserted, giving a total loss of 930. In the month of August 560 had been on the sick list at one time.* The only authentic account of the diseases which afflicted the American troops in 1809, at Terre aux Bœufs, and during their subsequent progress up the Mississippi River, with which we are acquainted, is contained in the "*Physical Observations and Medical Tracts and Researches on the Topography and Diseases of Louisiana*, by Jabez W. Heustis, M. D., late surgeon in the Army of the United States, etc., etc. New York, 1817, pp. 89–104.

The committee appointed by Congress to investigate the causes of the great mortality in the army of General Wilkinson, ascribed the sufferings of the troops and the destruction of the army to the following causes:

I. The detachment consisting of new levees.

II. The insalubrity of the climate; the summer and autumn of 1809 being unusually sickly.

III. To the nature of the ground on which the detachment was encamped at Terre aux Bœufs, and the detention of it at that place during the whole of the summer.

IV. To the want of sound and wholesome provisions and

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* History of the Discovery and Settlement of the Valley of the Mississippi, etc., by John W. Monette, M. D., vol. II., p. 485-486.

vegetables; the want of an hospital, and of hospital stores and medicines.

V. The excessive fatigues to which the troops were subjected in clearing, ditching and draining the ground on which they were encamped.

VI. To the want of repose during the night, owing to the troops not being provided with bars or nets to protect them from the annoyance of mosquitoes.

VII. The want of cleanliness in the camp, the nature of the position rendering it almost impossible to preserve it.

VIII. The sick and well being confined to the same tents, which neither protected them sufficiently from the heat of the sun, nor kept them dry from dews and rains.

With reference to yellow fever, Dr. Heustis states that "there are but few months in the year, in which the inhabitants of Louisiana are not subject to bilious diseases. These, however, are principally severe in the summer season, at which time the fever frequently assumes the symptoms and character of the bilious yellow fever of tropical climates," p. 109.

With reference to the causes of yellow fever in Louisiana, Dr. Heustis observes: "A constitution unaccustomed to the climate is the predisposing cause; marsh miasmata, the remote cause, and a fit of intoxication, or exposure, the exciting cause. But independently of any peculiarity of predisposition or constitutional susceptibility, and without the aid of interference, the miasmata themselves are frequently sufficient to occasion serious attacks of fever." Dr. Heustis, with respect to the nature of this disease, expressed the belief, that it is only a more aggravated degree of intermitting and remitting fever; and that the plague is the grand climax of malignity, analogous in its origin and nature, and standing at the top of the same scale. He says: "Briefly my opinion is, that the intermitting, remitting, yellow fever, and plague, are only gradations and modifications of the same diseases; that they all arise from similar causes, differing only in degree of force, and concentration, and that the proximate cause of each is the same."

That yellow fever prevailed in New Orleans, in 1809, is evident not only from the work of Dr. Heustis, but also from the following facts communicated to Professor Hosack, of New York, by a gentleman of New Orleans:

"It is well known to nearly all the inhabitants of Lafourche, that in the year 1809, Captain Edward D. Turner, and his wife, who resided at Point Houmas Plantation, lost their lives by opening a trunk of clothes, which had been sent from New Orleans, during the prevalence of yellow fever; that they immediately sickened and died with black vomit, as did also the negro-nurse who attended them.*

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* An account of the yellow fever as it prevailed in the city of New York in the summer and autumn of 1822. By Peter S. Townsend, M.D. New York, 1823. Appendix p. 345.

During this year Louisiana received large accessions of French from the Island of St. Domingo, and on the 18th of July, 1809, the refugees from this island amounted to 5754, of whom, 1798 were white people, 1977 free colored and blacks, and 1979 slaves.

In consequence of the frequent ravages of the yellow fever, particularly in the autumn of 1809, Claiborne recommended to the legislature, the policy of making "some general health laws, which should enforce cleanliness, and subject the shipping entering the Mississippi to those quarantine regulations which at other places have proved salutary."*

1810. The population of the Territory of Orleans, had been rapidly augmented by emigration from the United States, and in seven years (1803-1810) had increased from 49,473, to 76,556; and the city of New Orleans from 8,056, to 24,552.

1812. On the 10th of January, 1812, the inhabitants of New Orleans, witnessed the approach of the first vessel propelled by steam, which floated on the Mississippi, the New Orleans from Pittsburg.

The captain stated he had been but two hundred and fifty-nine hours, actually on the way.—Martin's History of Louisiana, vol. 2, p. 311. This speed seemed at the time to be marvelous, and the whole population flocked to the river to examine this wonderful creation of the genius of man, which was destined not only to revolutionize commerce, but also to influence the transmission and spread of destructive diseases.

1815. It was only after the year 1815, when Louisiana was relieved from the danger of foreign invasion, and began to reap the advantages of steam navigation on the river that the State and New Orleans began to take the proud rank they now enjoy in population, commerce, agriculture and arts. The entire population of Louisiana in 1815, did not exceed 90,000 souls, of whom one-half were black. In 1830 the State had increased to 215,740, including 126,300 blacks. The census of 1840, gave an aggregate of 352,400 souls, including 168,452 slaves.

1817. The yellow fever committed ravages in New Orleans, during the summer and fall of 1817, confining itself chiefly to Europeans and Americans. The epidemic declared itself during the month of July, but in the preceding month of June, symptoms of the disease had been manifested in various portions of the town, but chiefly at the Civil Hospital, where it showed itself before the arrival of the schooner from Havana, which had lost part of her crew by the vomito. The disease continued its ravages during July; assumed a greater degree of intensity in August, on account of the great number of Europeans who landed and Americans who came down the river. The epidemic diminished after a severe storm, which took place at the commencement of September. The weather was changeable until the 20th of that month, then the south

*Executive Journal, vol. 4, p. 219.

wind commenced blowing again; the heat increased accompanied with dampness, and the disease attacked several individuals newly arrived in the city. At length it disappeared in the month of October, except at the Civil Hospital, where it reigned for some time.

M. M. Gros and Gerardin in their "*Rapport*, Fait a la Société Médécale, sur la Fièvre Jaune, qui a regne d'une maniere epidemique, pendant l'Ette de 1817," held that "the disease was caused by the peculiar topography of New Orleans; abundant rains filling the stagnant marshes; excessive heat of the summer and influx of strangers. This disease of endemic nature has become epidemic on account of a concurrence of circumstances favorable to its progress and development. It has not been contagious, but it is supposed that under certain circumstances, it may become contagious."

1819. The yellow fever of 1819, appeared on the 7th of May, when one named John Gifford was attacked and died. After this it manifested itself in another fatal case, continued in a sporadic form, augmenting progressively, until the commencement of August, at which time the patients multiplied at such a rate at the hospital and in the town, that from that time it was regarded as an epidemic. It continued with great intensity until the commencement of November, when the number of patients diminished in a sensible manner, until the middle of December, which was regarded as its definite termination. The committee of physicians appointed by the "*Société Médécale de la Nouvelle-Orleans*" to investigate the origin and nature of this epidemic, state that the yellow fever of 1819, as well as that of 1817, manifested itself sporadically from the month of May, but it became at an earlier date an epidemic in 1817, as it was regarded as such in the month of July, whereas it was not so pronounced in 1819, until the commencement of August; which appears to indicate that the cause was more intense in 1817; however the epidemic of 1819, lasted a longer time, terminating in December, whilst that of 1817, was considered as having terminated in October. The greater number of persons affected in both epidemics were Europeans or Americans, recently arrived. The Creoles of New Orleans, however, were not entirely exempt from the ravages of the fever. In 1817, not one negro is said to have been attacked by the disease, whereas in 1819, several died with yellow fever. Malarial and intercurrent fevers were more common in 1817. In 1819, yellow fever superseded all other diseases.

The committee referred the yellow fever of 1819, to the burning heats of July, August and September, frequent rains, and stagnant water in the marshes. They regarded the yellow fever of 1819 as constitutional, non-contagious, indigenous (of spontaneous origin), and *non-imported*. Individuals contracting the disease in the city did not communicate it to their families in the country. Not one of the inhabitants of St. Domingo

were attacked by the yellow fever of 1819. In fine the committee* regarded the yellow fever of 1819 as due to heat, humidity, and local causes.

1820. The deaths from yellow fever for the year numbered 400. Deaths from yellow fever in the hospital 82. First admission July 21st, the last December 21st.

ESTABLISHMENT OF THE FIRST QUARANTINE AND BOARD OF HEALTH IN NEW ORLEANS.

The city and State authorities fully alive to the sanitary interests of New Orleans, enacted health laws of the most stringent and extensive character, on the 6th of March, 1816, and 18th of March, 1817. Although these acts appeared to exhaust the subject of hygienic legislation, they had no apparent effect on the march of yellow fever.

Dr. Bennet Dowler, states that quarantine laws were enacted in the winter or before the hot season (Tableau of the Yellow Fever of 1853, p. 14), but Dr. W. M. Carpenter quotes the N. O. Gazette to the effect that "In consequence of the positive proofs of the importation of the disease in the dreadful year of 1817, the legislature of that winter passed a quarantine law; which though far from perfect in its structure, might have been considered as a pledge of more efficient precaution.". Sketches from the History of Yellow Fever, p. 17.

The mortality for August, 1817, was 489; September, 304; October, 172; total for the three months, 965. This record was taken from that of the various cemeteries. Dr. Bennet Dowler gives the mortality during five months, as white male adults, 760; white female adults 63; a ratio of more than twelve times less than the former; total mortality for five months, 1142. The Physico-Medical Society on the contrary reported the deaths in August, 304; in September, 178; in October, 91; in November, 91; in December, 74. From these and various other data, Dr. Dowler estimated the deaths from yellow fever, this year, at 800.

Governor J. Villeré, January 6, 1818, in his annual message says: "That during the course of the last summer, the yellow fever had extended its ravages over the city, chiefly falling on newcomers, but many of our citizens were its victims." He thinks that the disease was imported, and regards quarantine laws favorably.

The yellow fever reappeared in New Orleans in 1818, and according to the estimate of some authors, the mortality amounted to 1151. Dr. Bennet Dowler gives the following statistics for 1818; deaths, white male adults 324; of female adults, 81; white children, 87; black male adults, 219; black

* Rapport Publié au nom de la Societé Médécale de la Nouvelle-Orleans, sur la Fièvre Jaune qui y a régné épidémiquement, durant l'Eté et l'Automne de 1819. Nouvelle-Orleans. The members of the committee were Trahne, "President de la Societé Médécale," Fortin, President du Comité, Martin, Connant, Milteuberger, Lacroix, and Thomas, "Secrétaire Rapporteur."

female adults, 162; black children, 277. The mortality augmented in each month until September, in which 166 died. Total whites, 492; total blacks, 658; grand total, 1151. Dr. Barton does not include 1818, amongst the epidemic years, and the statistics given by Dr. Dowler, evidently relate to all diseases.

An Act approved March 6, 1819, repeals the Act establishing a Board of Health in New Orleans, the health officer and all laws for the prevention of the introduction of pestilential, malignant and infectious diseases; directs the sale of the lazaretto and all its property; investing the Governor with authority to establish quarantine by proclamation at his sole discretion.

As we have seen yellow fever prevailed as a destructive epidemic in 1819. The city proper had whites 13,604; blacks 13,592. The city and suburbs contained 45,958 souls. Mortality by months, beginning with January 70; February 102; March 97; April 78; May 120; June 130; July 130; August 292; September 594; October 513; November 134; December 109; total 2369. It will be observed that the total mortality for August, September and October was 1199, during the prevalence of the yellow fever, or over one-half the entire mortality for the twelve months. These figures taken from the reports of the medical society and cemeteries apply probably only to the city proper.

Mr. Nuttal, the naturalist, in his travels, estimates the victims to yellow fever for this year in the city, at from five to six thousand, an aggregate greatly exceeding probability.

In the official report of the Surgeon-General U. S., it it said: "At New Orleans it was estimated that upwards of 3000 died of yellow fever; and it was not until after the first of December that it was deemed prudent to return either to this city or Natchez. The interior of the country, in the Southern States, seemed to suffer in a corresponding ratio. In the West Indies the fever exhibited a still greater mortality."

The grand total mortality, according to the report of the Medical Society (supposed to include only the incorporated limits), is but 1337; the males being 1,142; the females 195; blacks, male adults 182; females 168. Deaths of blacks distributed almost equally among the months of the year, and little if any increased during the three epidemic months, while the deaths of white adults increased from 64 in July to 485 in September. Six white men died for one white woman.

According to Dr. Bennet Dowler, the first two cases of yellow fever in 1849, occurred May 7th and 12th; the last death December 9th. And as we have previously shown the Committe of the Medical Society, after minute inquiry, failed to trace the disease to local causes.

Dr. Carpenter, on the other hand, in his special pleading for importation and contagion, says:

"In June, several vessels, with crews sickly with yellow

fever, entered from Havana, and about the first of July, cases began to appear among the shipping in the harbor. The Governor now proclaimed quarantine, by a power vested in his hands, by the Act repealing the quarantine law. The disease, however, had already made some progress, and the thing was given up, and the vessels continued to come in, and some from Martinique, which were known to have lost some of their men on the voyage, and even on their way up the river, with the worst type of the 'vomito prieto,' and not a voice was heard to prevent their mooring at the levee. The disease became epidemic before the middle of August, and assumed a character of the highest malignity; medicine lost its effects; the skill of the physician was baffled, and multitudes were carried to the grave." (New Orleans Gaz., January 7, 1820, Sketches from the History of Yellow Fever, p. 18.)

It is evident that the disease had originated in the city, before its introduction in the way mentioned by Dr. Carpenter, who appears merely to quote the statements of a newspaper article.

On the other hand Dr. Dupuy de Chamberry, in his historical sketch of yellow fever, as it appeared in this city in 1819, says: "I formerly believed the yellow fever to be contagious, but since I have been in the midst of it, my numerous practical observations have never been able to furnish me with one proof of this much dreaded attribute. Indeed, the result has been quite the reverse; and, I am now convinced that the disease is permanently fixed to the spot, and within the limits of the place which has created it. Not one case occurred beyond the limits of the city, during its prevalence in the years 1817 and 1819, that could be traced to our innumerable patients, although daily intercourse was kept up with the people of the neighboring estates and plantations. A great number of our inhabitants who carried the seeds of the disorder abroad, seeking refuge from the danger at a distance, suffered an attack of the fever and died, but in no instance was it communicated to their friends. Fifty times have I had my hands and besmeared with the putrid blood, black vomit, or fœtid slimy matter of perspiration. Fifty times have I been immersed in the effluvia issuing from a dead or living subject, and never been infected by the disease. From extensive observations I infer that the yellow fever of this place is a disease, *sui generis*, the product of local causes, and neither contagious nor exportable. Flight from the infected spot is the only preservation, and a distance of three miles appears to be quite sufficient to inspire the fullest confidence."

The repulsive, mischevous, demoralizing and inhuman doctrine of the direct contagiousness of yellow fever, has been revived in our day, and during the epidemic of 1878, led to remorseless quarantines and the shameful neglect of the sick in many cases.

New Orleans was again visited by an epidemic of yellow fever in 1820. Deaths from yellow fever in the hospitals 82. First admission July 21st; the last, December 21st. The deaths for August from all causes were 289, September 402, October 177, total 868. During the same months, in 1817, the mortality was 965, and in 1819, 1199. Dr. Carpenter states that "About the 20th of July, it became known that several cases of yellow fever had appeared among the shipping, and some at boarding houses. When the mayor desired Dr. Davidson to examine all the vessels which had lately entered the port of New Orleans from the West Indies where the yellow fever was then prevailing, who made diligent inquiries into and having investigated the grounds for the rumors which had prevailed in the city for some days past, that malignant fever had made its appearance, respectfully reports that:

'The schooner Gold Huntress, Martin, master, from Havana, entered on the 17th of June, having lost two men on her passage with yellow fever; also that the brig Charles Fawcett, Lamon, master, from Matanzas, arrived on the 10th of July, having lost two men on her passage, and having others sick with yellow fever.'" The yellow fever became epidemic between the first and middle of August. (Letter of Dr. G. C. Forsyth, extract from N. O. Gazette, Nov. 15th, 1820. Sketches from the History of Yellow Fever, p. 19.)

Governor Villeré declared "that the scourge of war is preferable to yellow fever;" "that the city had been twice ravaged in three years," (1817, 1819) and "that it is contagious." He urged the legislature to pass quarantine laws, in which he had the greatest confidence as a preventative.

Governor Villeré, a firm advocate for contagion and quarantine, in his message of November 22d 1820, in relation to the then existing epidemic yellow fever, says:

"All the medical faculty appear definitely to have adopted the opinion that the yellow fever, which during the last year has plunged us once more into mourning and desolation, is not contagious." But he argued: "During the months of August, September and October, there has been almost constantly in the prison of this city a great number of prisoners, and not a single one among them has been affected with the disorder." "If the yellow fever were natural to our climate, how has it happened that among such a number of persons, heaped together in so small a space as the prison of this city, not a single one should have been attacked."

Dr. Chabert, a physician of New Orleans, opposed the Governor's argument as to the prison, and maintained that the creoles never take the yellow fever, though they do not shut themselves up to avoid it.

Governor Villeré reviews the report of the Medical Society for the current year, dissents from its deductions, which he regards as those of all the faculty, and denies what he calls

"*The constitutionality of the Yellow Fever.*" Tableau of the Yellow Fever of 1853, etc., by Bennet Dowler, M.D., p. 17.

On the 18th of December, 1820, Governor Robertson, in his inaugural message, urged the legislature to establish quarantine against yellow fever.

The quarantine laws passed by the legislature, in February, 1821, creating a Board of Health, with plenary powers, legislative, judicial, executive, pecuniary and sanitary, modeled after codes the most rigid, and enforced by the heaviest penalties, were carried into effect in March of the same year.

The quarantine ground, established at the English Turn, including incidental expenses, cost over twenty-two thousand dollars.

The Board of Health commenced its duties on the 6th of March, and instituted measures for cleansing the city, improving its salubrity, and providing against the introduction of infectious diseases. The quarantine was under the direction of the Board of Health, and vessels arriving in port were compelled to contribute to its support. The Board held its meetings every Tuesday afternoon at the Customhouse, until the 1st of June, and from that time until the 1st of November every day excepting Sundays. The mayor, Joseph Roffignac, was president, ex-officio, of the Board, composed of twelve members, who received no pecuniary compensation for their services.

The nature of the ordinances of the Board of Health, may be gathered from the following extracts from the Code of Public Health:

"All keepers of inns, taverns, boarding-houses, or other places, where persons are lodged for hire, shall once in every week, furnish the Mayor of the city, at his office, a list of the persons lodging or boarding at their houses respectively, according to the printed forms which the Mayor shall furnish at the expense of the corporation, which shall contain the names, apparent age, occupation, place of permanent residence; and nativity of such boarders or lodgers, and the time they have respectively lodged or boarded in such house; and every person offending against this article, shall forfeit one hundred dollars; or if knowingly furnishing a false return or list, shall forfeit a sum of five hundred dollars.

"If any seafaring man, or sojourner, shall, at any such house as is described in the foregoing article, fall sick at any time between the first day of May and the first day of November in any year, the master of such house shall, within twelve hours, report the name of such sick person to the Board of Health, and describe the place at which he lies sick, unless such person is attended by a physician duly admitted to practice, and for every neglect to make such report, every keeper of such house shall forfeit twenty dollars.

"The sexton or keeper of every cemetery in the city of New Orleans, shall every day during the months of May, June,

July, August, September and October, and every week during the rest of the year, make a return to the Board of Health, of the persons buried in such cemeteries; and for every neglect, such sexton or keeper, shall forfeit ten dollars.

"Every person practising physic in the city of New Orleans, who shall have a patient sick of the yellow, or bilious malignant or pestilential fever, or infectious fever, between the first day of May and the first of November in every year, shall within twenty-four hours make a report in writing to the Board of Health, at their office, and for neglecting to do so he shall forfeit for every offence, three hundred dollars."

The year 1821 proved salubrious—a result attributed to the strict quarantine. From the following table it will be seen that the deaths were only slightly augmented during the months of July, August, September and October.

*Annual Report of Interments in the City of New Orleans, commencing on the 1st day of January and ending on the 31st day of December 1821, as made to the Mayoralty and Board of Health.*

| 1821. | | January. | Febr'ary. | March. | April. | May. | June. | July. | August. | Septem'r. | October. | Novem'r. | Decem'r. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Whites. | Men | 24 | 18 | 24 | 25 | 24 | 37 | 54 | 60 | 75 | 74 | 49 | 39 | 505 |
| | Women | 3 | 4 | 3 | 5 | 6 | 4 | 8 | 7 | 0 | 10 | 10 | 5 | 65 |
| | Children | 2 | 7 | 4 | 2 | 8 | 10 | 19 | 10 | 14 | 89 | 15 | 5 | 105 |
| Colored persons. | Men | 13 | 12 | 9 | 6 | 16 | 10 | 18 | 20 | 17 | 12 | 14 | 10 | 157 |
| | Women | 13 | 12 | 12 | 13 | 14 | 7 | 13 | 18 | 10 | 7 | 16 | 15 | 152 |
| | Children | 14 | 17 | 15 | 13 | 15 | 23 | 16 | 18 | 6 | 15 | 14 | 15 | 181 |
| | Totals. | 71 | 70 | 67 | 65 | 85 | 91 | 128 | 133 | 122 | 126 | 118 | 89 | 1165 |

Governor Robertson, in January, 1822, congratulated the Legislature upon the good fortune of New Orleans as being "*the healthiest city*" *in the Union;* but at the close of August, the yellow fever appeared; it augmented throughout September, but did not reach its culminating point until October; the month of greatest mortality having amounted to 665, exceeding that of the preceding month by 33. The following was the mortality for three months: August, 165; September, 532; October, 665. Total, 1362.

Total deaths from yellow fever in 1822, 808; or one in 53.28 of the population. The highest number of deaths any one day of yellow fever, was 60; and of all causes 80. During 1833, the largest mortality any one day of yellow fever was 53; 1841, highest number from yellow fever 43, and greatest mortality 60.

Of the ten epidemics of yellow fever, with which New Orleans had been visited since the cession to the American Government in 1803, up to the year 1842, the average loss has been estimated as not exceeding 800; and during this period the most fatal epidemic was that of 1822, when the deaths num-

bered 808, or one in 53.28 of the entire population. The total mortality from yellow fever in 1841, was 1641; distributed thus by cemeteries: Catholic Cemetery, 42; Cypress Grove Cemetery, 77; Protestant Cemetery, 63; St. Patrick's Cemetery, 78; Lafayette Cemetery, 241; Jewish Cemetery, (in Lafayette) 16; Potter's Field, 1124. Total, 1641.

Natives of the United States, 288; natives of foreign countries, 1055; natives of countries unknown, 298. Total, 1641.

The population of New Orleans in 1820 was 41,350, and in 1840, 102,191. In 1841, the population of New Orleans, probably exceeded 103,000; ratio of deaths from yellow fever one in 62.7 of population.

The value of the labors of the Board of Health in diminishing the rate of mortality, and by the prevention of yellow fever, by the so-called efficient and rigid quarantine, will be seen from the comparative mortality, from all diseases, during the three months of August, September and October of the years specified.

| Months. | Years. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1817 | 1819 | 1820 | 1822 | 1833 | 1837 | 1839 | 1841 |
| August | 489 | 292 | 289 | 165 | 410 | 483 | 619 | 562 |
| September | 304 | 594 | 402 | 532 | 783 | 1188 | 648 | 1115 |
| October | 172 | 513 | 177 | 665 | 565 | 568 | 297 | 659 |
| Totals | 965 | 1199 | 868 | 1362 | 2758 | 2239 | 1554 | 2231 |
| Ratio to entire population | 1 in 37.62 | 1 in 33,09 | 1 in 47.63 | 1 in 31.60 | 1 in 37.27 | 1 in 38.76 | 1 in 61·73 | 1 in 48.15 |

The message of Governor Robertson, after the epidemic of 1822, breathed sorrow and despair, and he could no longer exult upon the good fortune of New Orleans, as being "*the healthiest city in the Union*," and his bitter experience might well be heeded, when so-called sanitary reformers, attribute the *occasional absence* of yellow fever from New Orleans, to their pretentious but superficial efforts and shallow lucubrations.

"It is," says Governor Robertson, "an idle waste of time for me to inquire into the causes, origin and nature of this dreadful malady." * * * "The State resorted to quarantine, under the expectation that it would add to the chances of escape from this dreadful visitation. If this hope be fallacious, if no good effect has been produced, if even a procrastination of its appearance has not resulted from the measure, then should it be abandoned, and our commerce relieved from the expense and inconvenience which it occasions."

In 1823, the Committee of the House of Representatives on Quarantine Laws, reported, that "during the last year (1822) notwithstanding the *strictest compliance with these laws*, our expectations were frustrated at the very moment when we thought

we could indulge the hope of the most complete success. The season was far advanced, and in the month of September this metropolis enjoyed the most perfect health, when the yellow fever made its appearance."

"Notwithstanding the signal and lamentable failure of quarantine in 1822, the committee of the House of Representatives, of which F. Grima, Esq., was chairman, recommended its *continuance in the most rigid form, because it had not been tried sufficiently long, and because other States had similar regulations.*"

The Board of Health upon this occasion, as well as upon many others were not slow in finding an unfortunate vessel and some miserable individuals to whom they attached the odium of having introduced the disease. The Board of Health of 1822, set a worthy example to succeeding boards, which has been frequently exemplified in the most striking manner, in expressing sublime faith in its own powers, and in the efficacy of quarantine to exclude yellow fever from New Orleans. Thus they held the following language:

"The Board of Health believe it their duty to do away with the impression made by interested persons, to induce a belief in the inutility of the powers which you have so wisely conferred on the Board, for the establishment of quarantine, which these persons wish to see destroyed." * * *

"This opinion is diametrically opposed to that of the Board of Health, who believe that the yellow fever is contagious, and that the establishment of quarantines is necessary to prevent its introduction."

The citizens however were not convinced by the arguments of the contagionists, as to the value of their system to prevent yellow fever, and determined to petition the legislature to abolish the quarantine laws.

On the 23d of January, 1823, a large public meeting took place, in which it was moved and carried, "*that the late epidemic had tested the total inefficiency of the quarantine laws and regulations;* we consider them not only useless but in the highest degree oppressive and injurious to the commerce of this city; and that application ought to be made to the legislature for the purpose of having them annulled." A memorial was addressed to the legislature accordingly for that purpose. The legislature, however, took no decisive action upon the matter. The quarantine continued in force. The health of the city continued good throughout 1823, only two cases of yellow fever having been recorded in the books of the Charity Hospital.

The Governor, in his message of January, 1824, congratulated the legislature on the health of New Orleans, and proclaimed the city free from "*all contagious diseases,*" but on the 15th of November of the same year, the Governor in his message says: "New Orleans has been again subjected to the dreadful scourge," and suggests the expediency of closing the business

season in midsummer, and recommends a general flight to the unacclimated.

Mayor J. Roffignac in his message dated September 11, 1824, gives the following exposition of the causes of yellow fever:

"The opinion of professional men on the primary cause of the insalubrity of New Orleans, tends only to confirm the idea which must occur to the mind of every attentive observer, on looking at the topographical situation of our city, to-wit: that these causes are of two kinds; the one arising within and the other without the city itself, and that both ought to be counteracted.

"The internal causes are, 1st the filth daily created in a populous city; 2dly, the low grounds and pools where stagnant water lies, the wooden gutters, constantly wet and fermenting under the rays of a torrid sun; 3dly, the want of privies in most of the populous districts, which renders it necessary to recur to the disgusting and dangerous use of tubs.

"The external causes are, 1st, the marshes lying north and west of the city, uncovered but undrained, and deprived, by the cutting down of trees, of the shelter formerly afforded to them by the shade of a luxuriant vegetation for which the very miasms that now spread death and desolation among us, were a source of life and vigor; 2dly, to the south and east, the Mississippi, which in its periodical retreat, at the hottest season of the year, leaves on its banks a great portion of the filth which has been thrown into the current, but is brought back by eddies; 3dly, the winds, which at the moment we feel most secure, may, as was the case in 1822, convey to us the deadly effluvia of the dangerous spots, which they sweep in their course."

Mayor J. Roffignac does not allude to *contagion*, nor does he allude to the *quarantine*, which had afforded no protection, and proved a delusion against disease, and a serious obstruction to commerce.

The quarantine had been tried for three years, and yet two epidemics had occurred; the contagionist began to waver and, the joint committee of both houses of the legislature disagreeing on quarantine, were discharged from the consideration of the same on the last day of November, 1824.

Experience convinced the public that quarantine was not only useless but absolutely injurious to a city so exclusively commercial; that a free untrammeled trade, with freedom of ingress, egress and progress, was a social necessity involving the question of subsistence or starvation. On the 19th of February, 1825, the legislature repealed the quarantine laws which it had enacted four years previously, and at the same time the quarantine grounds were directed to be sold. During the eight years which followed, yellow fever was never so destructive as in 1822, under a strict quarantine, when according to some authorities, as the Rev. Timothy Smith, who visited New Orleans in 1823, 2000 died of that malady, although the

records examined by Drs. Barton, Dowler and myself, show only 808, the whole mortality for the three months ending with October being 1362. The maximum mortality upon one day rose to 80, of yellow fever to 60. The ratio of mortality in the Charity Hospital was enormous, out of 337 admissions, 239 deaths and only 98 cures took place.

An ordinance for the establishment of another Board of Health in New Orleans, was again passed by the General Council in June, 1841. The Board consisted of nine members—three aldermen, three physicians, and three private citizens. It was invested with ample powers to adopt and enforce such sanitary regulations as were thought conducive to the health of the city. This Board performed its functions during the first year of its existence; but we have seen that a fearful epidemic of yellow fever desolated New Orleans in 1841, destroying 1641 of her inhabitants, the mortality for the months of August, September and October reaching 2231.

The second year there was a falling off, but a dissolution did not take place till 1843. In 1844, the Board of Health having ceased to officiate, the General Council invited the Medico-Chirurgical Society to take charge of the sanitary interests of New Orleans. This proposition was accepted, and a committee of nine members appointed with full powers to act as a Board of Health.

Acts were passed by the General Council 15th August, 1846, 23d June, 1847, and by the Legislature of Louisiana March 6th, 1848, May 15th, 1848, and June 13th, 1855, relating to the Board of Health and Quarantine. The present system of quarantine was established on June 13th, 1855, and at this date Dr. Samuel Choppin, President of the Board of Health, held the position of Quarantine Physician.

The years 1853, 1854 and 1855, are justly regarded as the most destructive and pestilential period in the history of New Orleans, the deaths from yellow fever alone numbering 12,780, and from all causes 37,076.

## YELLOW FEVER A DISEASE OF SHIPS, CITIES, AND TOWNS, AND ITS ORIGIN AND SPREAD DEPENDENT UPON A CERTAIN DENSITY OF POPULATION.

As far as is known, yellow fever never originated spontaneously and sporadically among the sparse population of the country, no matter how malarious the region; malarial fevers on the contrary, are rife in the thinly populated countries, and decrease steadily in number and virulence with the increase of population and the improvement of agriculture.

We will illustrate this proposition, and at the same time pursue the general spirit of the investigation, by the following statistics of the city and Charity Hospital:

*Statistics of Yellow Fever in the Charity Hospital of New Orleans during a period of 57 years.*

| Year. | Admissions, cases Yellow Fever. | Discharges, Yellow Fever. | Deaths, Yellow Fever. | Per cent. of mortality. | Date of First Case. | Date of Last Case. |
|---|---|---|---|---|---|---|
| 1822 | 337 | 98 | 239 | 70.92 | September 3. | December 21. |
| 1823 | 1 | ..... | 1 | 100.00 | September 11. | ..... |
| 1824 | 167 | 59 | 108 | 64.67 | August 4. | November 13. |
| 1825 | 99 | 40 | 59 | 59.45 | June 23. | December 19. |
| 1826 | 24 | 19 | 5 | 20.83 | May 18. | November 18. |
| Total in 5 years. | 628 | 216 | 412 | 65.63 | | |
| 1827 | 372 | 263 | 109 | 29.30 | July 17. | December 5. |
| 1828 | 290 | 160 | 130 | 44.83 | June 19. | December 10. |
| 1829 | 435 | 220 | 215 | 49.43 | May 23. | November 29. |
| 1830 | 256 | 139 | 117 | 45.72 | July 24. | November 29. |
| 1831 | 3 | 1 | 2 | 66 67 | June 9. | October 7. |
| Total in 5 years. | 1356 | 783 | 573 | 42.23 | | |
| 1832 | 26 | 8 | 18 | 69 23 | August 15. | October 25. |
| 1833 | 422 | 212 | 210 | 49.77 | July 17. | November 17. |
| 1834 | 150 | 55 | 95 | 63.33 | August 28. | November 22. |
| 1835 | 505 | 221 | 284 | 56.24 | August 24. | November 27. |
| 1836 | 6 | 1 | 5 | 83.33 | August 24. | October 25. |
| Total in 5 years. | 1109 | 497 | 612 | 55.18 | | |
| 1837 | 998 | 556 | 442 | 44.29 | July 13. | November 28. |
| 1838 | 24 | 5 | 19 | 77.25 | August 25. | November 1. |
| 1839 | 1086 | 634 | 452 | 41.62 | July 23. | November 17. |
| 1840 | 3 | ..... | 3 | 100.00 | July 9. | November 17. |
| 1841 | 1114 | 520 | 594 | 53.14 | August 2. | December 8. |
| Total in 5 years. | 3225 | 1715 | 1510 | 43.72 | | |
| 1842 | 425 | 214 | 211 | 49.65 | August 4. | November 26. |
| 1843 | 1096 | 609 | 487 | 44.44 | July 10. | December 31. |
| 1844 | 169 | 86 | 83 | 49.11 | September 4. | November 25. |
| 1845 | 1 | 1 | ..... | ..... | August 10. | August 10. |
| 1846 | 146 | 50 | 96 | 65.82 | August 29. | December 1. |
| Total in 5 years. | 1837 | 960 | 877 | 47.74 | | |
| 1847 | 2479 | 1584 | 895 | 36.11 | June 29. | December 11. |
| 1848 | 1226 | 806 | 420 | 34.26 | June 7. | December 2. |
| 1849 | 1055 | 510 | 545 | 51.66 | July 28. | December 4. |
| 1850 | 10 | 6 | 4 | 40.00 | August 23. | November 16. |
| 1851 | 7 | 5 | 2 | 28.57 | August 1. | October 9. |

*Statistics of Yellow Fever*—Continued.

| Year. | Admissions, cases Yellow Fever. | Discharges, Yellow Fever. | Deaths, Yellow Fever. | Per cent. of mortality. | Date of First Case. | Date of Last Case. |
|---|---|---|---|---|---|---|
| Total in 5 years. | 4777 | 2911 | 1866 | 39.06 | | |
| 1852 | 496 | 157 | 339 | 68.74 | August 20. | November 29. |
| 1853 | 3217 | 1327 | 1890 | 58.71 | May 21. | November 23. |
| 1854 | 2743 | 1510 | 1233 | 44.91 | July 2. | December 1. |
| 1855 | 2198 | 1099 | 1099 | 50.00 | June 3. | December 11. |
| 1856 | 98 | 47 | 51 | 52.04 | August 10. | November 3. |
| Total in 5 years. | 8752 | 4140 | 4612 | 52.69 | | |
| 1857 | 235 | 80 | 155 | 65.91 | September 17. | December 18. |
| 1858 | 2727 | 1345 | 1382 | 50.67 | June 16. | December 23. |
| 1859 | 107 | 23 | 84 | 78.50 | August 29. | November 29. |
| 1860 | 2 | 2 | ..... | ..... | August 12. | November 4. |
| 1861 | ..... | ..... | ..... | ..... | | |
| Total in 5 years. | 3071 | 1450 | 1621 | 52.78 | | |
| 1862 | ..... | ..... | ..... | ..... | | |
| 1863 | ..... | ..... | ..... | ..... | | |
| 1864 | 2 | 1 | 1 | 50.00 | | |
| 1865 | .. | ..... | ..... | ..... | | |
| 1866 | 130 | 95 | 35 | 26 92 | August 27. | November 14 |
| Total in 5 years. | 132 | 96 | 36 | 27.27 | | |
| 1867 | 1493 | 821 | 672 | 45.01 | June 9. | October 22. |
| 1868 | 8 | 3 | 5 | 62.50 | October 5. | October 22. |
| 1869 | 3 | 2 | 1 | 33.33 | | |
| 1870 | 518 | 256 | 262 | 50.57 | | |
| 1871 | 29 | 9 | 20 | 68.96 | | |
| Total in 5 years. | 2051 | 1091 | 960 | 46.36 | | |
| 1872 | 11 | 3 | 8 | 72.72 | | |
| 1873 | 118 | 43 | 75 | 63.55 | | |
| 1874 | 9 | 3 | 6 | 66.66 | | |
| 1875 | 16 | 5 | 11 | 68.75 | | |
| 1876 | 3 | 1 | 2 | 66.66 | | |
| Total in 5 years. | 157 | 55 | 102 | 64.96 | | |

*Statistics of Yellow Fever*—Continued.

| Year. | Admissions, cases Yellow Fever. | Discharges, Yellow Fever. | Deaths, Yellow Fever. | Per cent. of mortality. | Date of First Case. | Date of Last Case. |
|---|---|---|---|---|---|---|
| 1877 | ..... | .... | ..... | ..... | | |
| 1878 | 817 | 406 | 411 | 50.44 | July 18. | November. |
| .... | ..... | ..... | ..... | ..... | | |
| .... | ..... | ..... | ..... | . | | |
| .... | ..... | ..... | ..... | .... | | |
| 10 years, 1822–'31 | 1984 | 999 | 985 | 49.64 | | |
| 10 years, 1832–'41 | 4334 | 2212 | 2122 | 48.75 | | |
| 10 years, 1842–'51 | 6614 | 3871 | 2743 | 41.47 | | |
| 10 years, 1852–'61 | 11,823 | 5590 | 6233 | 52.71 | | |
| 10 years, 1862–'71 | 2183 | 1187 | 996 | 45.57 | | |
| Total in 50 years. | 26,958 | 13,859 | 13,079 | 48.55 | | |

From the preceding table consolidated from the yearly reports of the Charity Hospital, it will be seen that during a period of 50 years, 1822–1871, 26,958 cases of yellow fever were treated in the Charity Hospital, with a mortality of 48.55 per cent., and if we include the 5 years, extending to 1876 inclusive, 27,095 cases of yellow fever were admitted, 13,181 of which proved fatal, giving a mortality of 48.65 per cent. for the entire period.

During the entire period of 55 years, extending from 1822–1876 inclusive, only 4 years can be specified in which no cases of yellow fever were entered upon the Hospital Register, namely, 1861, 1862, 1863 and 1865. In 1864, only two cases were entered. It is important to note that the period 1861–1865, embraces the American Civil War, when the relations of New Orleans to commerce and emigration were altered, and the city was, to a great extent subjected to a strict military government and rigid quarantine.

A progressive increase in the number of cases of yellow fever, admitted into the Charity Hospital, is observed from

1822 to 1858. Thus, if periods of ten years be compared, the following results will be obtained:

Admissions during 10 years 1822–1831, 1984; 1832–1841, 4334; 1842–1851, 6614; 1852–1861, 11,823.

This increase should be referred not so much to a relative increase of the disease, as to the growth of New Orleans, and the progressive increase of emigration from European countries and Northern and Northwestern States, during the 40 years, extending from 1822–1861 inclusive.

The truth of this proposition can be shown by the statistics of the Charity Hospital and the march of population.

*Total Admissions and Deaths in Charity Hospital during 55 years*—1822-1877, *inclusive.*

| Year. | Admissions. | Discharges. | Deaths. | Remaining. | Year. | Admissions. | Discharges. | Deaths. | Remaining. |
|---|---|---|---|---|---|---|---|---|---|
| 1822 | 1689 | 1116 | 573 | 82 | 1850 | 18,476 | 15,989 | 1884 | 719 |
| 1823 | 1266 | 983 | 283 | 78 | 1851 | 18,420 | 16,777 | 1871 | .... |
| 1824 | .... | .... | .... | 100 | 1852 | 18,035 | 15,057 | 2098 | .... |
| 1825 | 1267 | 989 | 218 | 70 | 1853 | 13,759 | 10,733 | 3164 | .. . |
| 1826 | 1408 | 1212 | 196 | 125 | 1854 | 13,192 | 9976 | 2702 | ... |
| 1827 | 1853 | 1549 | 304 | 90 | 1855 | 12,192 | 9701 | 2391 | 545 |
| 1828 | 2390 | 1989 | 401 | 94 | 1856 | 9432 | 8389 | 974 | .... |
| 1829 | 2548 | 2065 | 483 | 138 | 1857 | 8897 | 7913 | 1017 | .... |
| 1830 | 2790 | 2366 | 424 | 148 | 1858 | 11,337 | 8923 | 2290 | 572 |
| 1831 | 3558 | 3149 | 409 | 116 | 1859 | 12,775 | 11,257 | 1321 | 664 |
| 1832 | 2271 | 1703 | 568 | 309 | 1860 | 14,060 | 12,605 | 1390 | 730 |
| 1833 | 3731 | 2617 | 1114 | 169 | 1861 | 8665 | 7918 | 798 | 891 |
| 1834 | 5797 | 4745 | 1052 | 262 | 1862 | 6016 | 5532 | 719 | .... |
| 1835 | 6225 | 4999 | 1226 | 265 | 1863 | ..... | ..... | .... | 373 |
| 1836 | 4748 | 4163 | 585 | 222 | 1864 | 4861 | 3999 | 812 | 423 |
| 1837 | 6060 | 4640 | 1420 | 228 | 1865 | 6466 | 5880 | 669 | 423 |
| 1838 | 4573 | 3890 | 683 | 271 | 1866 | 9329 | 8108 | 1122 | 637 |
| 1839 | 4566 | 3611 | 955 | 239 | 1867 | 8612 | 7260 | 1438 | 640 |
| 1840 | 4989 | 4370 | 619 | 267 | 1868 | 4981 | 4365 | 490 | 660 |
| 1841 | 4249 | 3093 | 1156 | 314 | 1869 | 6177 | 5327 | 784 | 716 |
| 1842 | 4277 | 3516 | 761 | ... | 1870 | 7837 | 6764 | 1118 | 672 |
| 1843 | 4713 | 3672 | 1041 | .... | 1871 | 6651 | 5730 | 891 | 700 |
| 1844 | 5772 | 5059 | 713 | .... | 1872 | 5541 | 4846 | 825 | 570 |
| 1845 | 6009 | 5446 | 563 | 283 | 1873 | 5090 | 4124 | 993 | 543 |
| 1846 | 7929 | 7074 | 855 | 401 | 1874 | 5231 | 4360 | 860 | 554 |
| 1847 | 11,406 | 9369 | 2037 | 427 | 1875 | 4845 | 4121 | 753 | 525 |
| 1848 | 11,907 | 10,010 | 1897 | 828 | 1876 | 5690 | 4780 | 742 | 693 |
| 1849 | 14,878 | 12,133 | 2745 | 609 | | | | | |

*Nationalities of Patients admitted to the Charity Hospital, New Orleans, for the periods specified.*

| Year. | Foreigners. | Natives U. S. | Natives of La. | Unknown. | Year. | Foreigners. | Natives U. S. | Natives of La. | Unknown. |
|---|---|---|---|---|---|---|---|---|---|
| 12 years, | | | | | 1858 | 9568 | 1391 | 360 | 18 |
| 1830–1841 | 37,543 | 16,247 | 512 | .... | 1859 | 10,753 | 1634 | 377 | 11 |
| 1842 | 3277 | 954 | 34 | .... | 1864 | 2966 | 1167 | 623 | 4 |
| 1843 | 3937 | 1017 | 59 | .. | 1868 | 3422 | 1014 | 524 | 21 |
| 1844 | 4530 | 1203 | 113 | 282 | 1869 | 3480 | 1841 | 837 | 19 |
| 1845 | 4704 | 1231 | 119 | 82 | 1870 | 4907 | 2163 | 723 | 44 |
| 1846 | 6151 | 1628 | 145 | 121 | 1871 | 4101 | 1847 | 671 | 32 |
| 1847 | 10,171 | 1507 | 53 | 157 | 1872 | 3255 | 1622 | 631 | 33 |
| 1848 | 10,280 | 1468 | 111 | 86 | 1873 | 3038 | 1363 | 672 | 17 |
| 1849 | 13,634 | 1645 | 147 | 142 | 1874 | 3013 | 1437 | 764 | 17 |
| 1850 | 16,598 | 1510 | 264 | 104 | 1875 | 2634 | 1332 | 866 | 13 |
| 1851 | 16,503 | 1485 | 241 | 191 | 1876 | 2991 | 1669 | 1015 | 15 |
| 1852 | 16,144 | 1561 | 248 | 181 | | | | | |
| 1853 | 12,333 | 1078 | 228 | 120 | Total. | 238,753 | 44,119 | 11,760 | |
| 1854 | 11,606 | 1250 | 252 | 84 | | | | | |
| 1855 | 10,861 | 960 | 328 | 38 | **Total admissions of Foreigners, natives of United States and of Louisiana. 1830–1876 inclusive. 317,286.** | | | | |
| 1856 | 8045 | 1020 | 349 | 18 | | | | | |
| 1857 | 7307 | 1183 | 394 | .... | | | | | |

A comparison of the preceding tables, will illustrate the relations of the foreign population to the diseases and especially to yellow fever, treated in the Charity Hospital of New Orleans.

During the period of 40 years 1830–1876, 317,286 patients were admitted to the Charity Hospital, and of this number 238,753 were foreigners; 44,119 natives of the United States, outside of Louisiana, and 11,760 were natives of Louisiana.

During a period of 30 years, 1830–1859, total admissions 260,372; foreigners 203,946; natives of the United States 29,664; natives of Louisiana 4334.

During a period of 10 years 1864–1868–1876, total admissions 56,914; foreigners 34,807; United States 14,455; natives of Louisiana 7426.

It is clearly shown by the statistics that the effects of the American Civil War and the subsequent destructive and hostile legislation during the following ten years, was to diminish emigration from foreign countries, and at the same time to impoverish the natives of Louisiana, who in 30 years, preceding our war, furnished only 4334 patients to the Charity Hospital, out of a total of 260,372, and who, in the 10 years, including 1864, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875 and 1876, furnished 7426 patients, out of a total of 56,914 admissions.

That the severest epidemics of yellow fever were intimately connected with the increase of population, and chiefly with emigration, is shown not merely from the preceding statistics of the Charity Hospital, but also from the various enumerations of the population and the mortuary records of the city.

*Table illustrating the Relations of the Population of New Orleans to Total Mortality from all causes and from Yellow Fever, during a period of 92 years.*

| YEAR. | Population of New Orleans. | Deaths from all causes. | Deaths from Yellow Fever | YEAR. | Population of New Orleans. | Deaths from all causes. | Deaths from Yellow Fever |
|---|---|---|---|---|---|---|---|
| 1787 | 5284 | 338 | .... | 1854 | 156,556 | 11,347 | 2425 |
| 1796 | 8756 | 638 | .... | 1855 | 158,980 | 10,096 | 2670 |
| 1807 | 17,001 | .... | .... | 1856 | 161,404 | 5689 | 74 |
| 1808 | 17,081 | 773 | .... | 1857 | 163,828 | 5581 | 199 |
| 1810 | 17,242 | 963 | .... | 1858 | 165,450 | 11,720 | 4855 |
| 1811 | 18,235 | 1239 | .... | 1859 | 166,500 | 6849 | 92 |
| 1812 | 19,229 | 624 | .... | 1860 | 168,670 | 7341 | 15 |
| 1813 | 20,212 | 939 | .. | 1861 | 169,907 | 5772 | .... |
| 1814 | 21,216 | 926 | .... | 1862 | 171,134 | 6278 | 2 |
| 1815 | 22,209 | 1252 | . | 1863 | 172,361 | 7172 | 2 |
| 1816 | 23,303 | 651 | .... | 1864 | 173,588 | 8498 | 6 |
| 1817 | 24,196 | 1772 | 823 | 1865 | 174,815 | 7016 | 1 |
| 1818 | 25,190 | 1106 | 115 | 1866 | 178,042 | 7754 | 185 |
| 1819 | 26,183 | 2138 | 425 | 1867 | 181,269 | 10,096 | 3107 |
| 1820 | 27,176 | 1766 | 400 | 1868 | 184,496 | 5343 | 3 |
| 1821 | 29,441 | 1165 | .... | 1869 | 187,723 | 6001 | 3 |
| 1822 | 31,706 | 2734 | 808 | 1870 | 191,418 | 7391 | 587 |
| 1823 | 33,971 | 1662 | 1 | 1871 | 193,276 | 6059 | 54 |
| 1824 | 36,236 | 1748 | 108 | 1872 | 195,234 | 6588 | 39 |
| 1825 | 38,501 | 2177 | 49 | 1873 | 197,092 | 7995 | 226 |
| 1826 | 40,766 | 1248 | 5 | 1874 | 198,950 | 7193 | 11 |
| 1827 | 43,031 | 1057 | 109 | 1875 | 200,708 | 6535 | 61 |
| 1828 | 45,296 | 1490 | 130 | 1876 | 204,404 | 6685 | 42 |
| 1829 | 47,561 | 2520 | 900 | 1877 | 207,282 | 7169 | 1 |
| 1830 | 49,826 | 2022 | 117 | 1878 | 210,000 | 10,717 | 4056 |
| 1831 | 52,455 | 1926 | 2 | | | | |
| 1832 | 55,084 | 8099 | 400 | 10 years, 1817–'26 | ..... | 17,506 | 2734 |
| 1833 | 57,713 | 4976 | 1000 | | | | |
| 1834 | 60,342 | 3687 | 95 | | | | |
| 1835 | 62,971 | 3873 | 284 | 10 years, 1827–'36 | ..... | 32,382 | 3042 |
| 1836 | 65,600 | 2734 | 5 | | | | |
| 1837 | 68,229 | 4807 | 1300 | | | | |
| 1838 | 70,858 | 2606 | 17 | 10 years, 1837–'46 | .. | 37,821 | 4453 |
| 1839 | 73,487 | 3934 | 800 | | | | |
| 1840 | 76,116 | 2977 | 3 | | | | |
| 1841 | 78,745 | 4549 | 1325 | 10 yea s, 1847–'56 | ..... | 92,018 | 18,043 |
| 1842 | 81,374 | 3375 | 211 | | | | |
| 1843 | 84,003 | 4050 | 487 | | | | |
| 1844 | 86,632 | 4620 | 148 | 10 years. 1857–'66 | ..... | 74,981 | 5367 |
| 1845 | 89,261 | 2783 | 2 | | | | |
| 1846 | 102,070 | 4220 | 160 | | | | |
| 1847 | 108,699 | 9043 | 2804 | 10 years, 1867–'76 | ..... | 69,886 | 4133 |
| 1848 | 115,503 | 7407 | 872 | | | | |
| 1849 | 122,511 | 9862 | 769 | | | | |
| 1850 | 129,747 | 7819 | 107 | 2 years, 1877–'78 | ..... | 17,886 | 4057 |
| 1851 | 138,599 | 7275 | 17 | | | | |
| 1852 | 147,441 | 8693 | 456 | | | | |
| 1853 | 154,132 | 15,787 | 7849 | Total, 62 years.. | ..... | 342,480 | 41,829 |

## MARCH OF POPULATION IN NEW ORLEANS AND ITS RELATION TO THE PREVALENCE OF YELLOW FEVER.

The preceding table has been constructed from the mortuary records of the Board of Health and various cemeteries, and from the data furnished by Barton, Dowler, Fenner and others. The population relates to the city proper, up to the year 1846, when that of the town of Lafayette is included. The mortuary records are in some years incomplete, and different authorities assign different figures to the number of deaths by yellow fever, in different epidemics. Some of the figures given may be the subject of critical discussion, but this is not necessary to the general results which so far from being exaggerated are below rather than above the absolute numbers. It is important that the data with reference to the population of New Orleans, should be clearly stated.

### Population of New Orleans.

| *Year.* | | *Whites.* | *Blacks and Colored.* | *Total* |
|---|---|---|---|---|
| 1769 | | ..... | ..... | 3190 |
| 1785 | | ..... | ..... | 4980 |
| 1788 | | ..... | ..... | 5331 |
| 1797 | | ..... | ..... | 8056 |
| 1810 | City | 11,281 | 5961 | 17,242 |
| | Parish Orleans | 2447 | 4863 | 7310 |
| 1820 | City | ..... | ..... | 27,176 |
| | Parish Orleans | ..... | ..... | 14,175 |
| 1830 | Parish of Orleans on the Right Bank of the river, and on the Left Bank all below Mandeville street. | ..... | ..... | 3744 |
| | Lower suburbs of New Orleans, | ..... | ..... | 2926 |
| | Northern suburbs of New Orleans, | ..... | ..... | 3976 |
| | Fort Pike | ..... | ..... | 83 |
| | Upper suburbs of New Orleans | ..... | ..... | 9437 |
| | Old Square, City of New Orleans. | ..... | ..... | 29,694 |
| 1840 | Municipality No. 1 | ..... | ..... | 33,780 |
| | Faubourg Trémé | ..... | ..... | 14,351 |
| | McDonoughtown | ..... | ..... | 3871 |
| | Municipality No. 2, 1st ward | ..... | ..... | 6092 |
| | " " 2d ward | ..... | ..... | 7207 |
| | " " 3d ward | ..... | ..... | 7724 |
| | Municipality No. 3 | ..... | ..... | 29,168 |
| | Total Parish and City of New Orleans | ..... | ..... | 102,193 |
| 1847 | City Census, March | ..... | ..... | 94,526 |
| | State Census, August | ..... | ..... | 79,503 |
| 1850 | City of New Orleans including Lafayette | 89,459 | 26,916 | 116,375 |
| 1860 | | 144,596 | 27,074 | 168,670 |
| 1870 | | 140,923 | 50,456 | 191,418 |
| 1878 (Estimated) | | 155,000 | 55,000 | 210,000 |

If this data be connected with the preceding table, the following results are worthy of note—

During ten years, 1817–1826, inclusive, the population of the city proper of New Orleans, increased from 24,196 to 40,766;

actual increase 16,570, or 64 per cent. The deaths from all causes numbered 17,506, and the deaths from yellow fever 2734, or one death from yellow fever in 6.7 deaths from all causes.

During the ten years, 1827–1836, the population increased from 40,766 to 65,600. Actual increase 24,834 or 69 per cent. Deaths from all causes 32,382; deaths from yellow fever 3042; one death from yellow fever in 10.6 in deaths from all causes.

During the ten years, 1837–1846, the population increased from 65,600 to 102,070; actual increase 36,470, or 55.6 per cent. Deaths from yellow fever 4453; one death from yellow fever in 8.4 deaths from all causes.

During the 10 years, 1847–1856, the population increased from 102,070 to 161,404, actual increase 59,334, or 58 per cent.; deaths from all causes 92,018; deaths from yellow fever 18,043; one death from yellow fever to 5.1 deaths from all causes.

During the 10 years, 1857-1866, the population increased from 161,404 to 178,042, actual increase 16,638, or 10.3 per cent.; total deaths from all causes 74,981; total deaths from yellow fever 5,367, or one death from yellow fever in 14.14 deaths from all causes.

During the 10 years, 1867-1876, the population increased from 178, 042 to 204,424, actual increase 26,382, or 14.8 per cent; deaths from all causes 69,886; deaths from yellow fever 4133, or one death from yellow fever in 16.9 deaths from all causes.

During the entire period extending from 1817 to 1878, inclusive, 62 years, the population of New Orleans increased from 24,196 to 210,000, actual increase in 62 years 175,804, or 727. per cent.

The total deaths during this period, amount to 342,480, and the total deaths from yellow fever 41,829, or one death from yellow fever in 8.2 deaths from all causes.

During this entire period of 62 years, 1817-1878, inclusive, yellow fever was not merely present, but caused deaths in New Orleans every year, with the exception of 1821 and 1861.

If the disease was imported, it was annually imported, quarantine notwithstanding.

If the disease was always imported, it found no difficulty at short intervals of gaining a foothold, so that in the space of 62 years it swept off 41,829 victims out of a total mortality of 342,480 from all causes.

If the so-called germ of yellow fever "*hibernates*," it has most successfully resisted the action of cold, for during the entire period of 62 years, as we shall show in the next division of our subject, there has annually occured a freezing temperature, the thermometer even in secluded places, always falling during some period of the winter or spring to 32° and below.

In view of the *powerful "hibernating powers of the yellow fever germ"* in New Orleans, it would be well to consider the probable utility of refrigerating ships and apparatus. If cold is capable of being so applied in mid-summer as "to *freeze out and destroy*" "*the yellow fever germs*" under the blazing heat of

the tropics and along the low muddy banks of a great river, in front of dreary quarantine buildings, enlivened by the song of the mosquito, the croak of the frog and the thunder of the alligator, let it be freely, fully and effectually applied to the cargo at least, if not to the passengers themselves.

Whatever the statistics of New Orleans may prove as to the valuelessness of cold as a permanent and reliable disinfectant capable of preventing the return of yellow fever, *after the ice has melted*, the experiment is worthy of a trial, however feeble the imitation may prove of the grand operations of the physical universe.

If the increase of the population of New Orleans be estimated at the regular intervals of the United States census, we obtain the following figures: In the 10 years 1820-1830, New Orleans gained 19,134 inhabitants, or 70 per cent.; in 10 years 1830-1840, increase 55,883, or 120 per cent.; in 10 years 1840-1850, increase 14,192, or 13 per cent.; in 10 years 1850-1860, increase 52,295, or 46 per cent.; in 10 years 1860-1870, increase 22,748, or 13 per cent. There are no accurate statistics to show the actual population in 1878, but judging from the disturbed state of politics from 1870 to 1878, and the contraction of business, and the loss of commerce, the increase of taxes and public debt, the estimate of 210,000 as the population of New Orleans in 1878, is above rather than below the true figures. It is worthy of note, that during the 10 years, 1860-1870, embracing the entire period of the Civil War, and the still more disastrous period of *so-called* "*Reconstruction*," there was an actual decrease in the white population of New Orleans from 144,596 to 140,923, whilst there was an increase of colored population (negro race) from 27,074 to 50,456.

Whilst, therefore, the whites actually decreased 3,673, the colored population increased 23,382, or 85 per cent.

While the negro population of New Orleans had nearly doubled itself in the ten years, 1860–1870, inclusive, on the contrary, during the ten years, 1850–1860, according to the United States Census, the white population had increased from 59,459 to 144,596, showing a gain of 55,137; and the negro population from 26,916 to 27,074, showing a gain in this element of only 158. A complete revolution was therefore made in the population of New Orleans, by the results of the civil war. The loss of 3,673 white citizens during the period embracing the civil war, 1860–1870, did not represent the actual destruction occasioned among the whites by the casualties of the war, for it will be admitted on all hands that a large immigration set into New Orleans from all parts of the Southern States after the close of the war, and this city probably contained a larger white population in 1866 and 1867 than at any previous or subsequent time. The prevalence of yellow fever in 1867, was mainly due to two causes: 1st, the absence of yellow fever as an epidemic since 1858, so that all children under 8 years of age were liable to the disease; and 2d, the influx of unacclimated strangers into the city.

The immunity of New Orleans from yellow fever in 1863, 1864 and 1865, can no more justly be referred to the sanitary measures of the United States Government during this period, than to those of the city and State, and Confederate Governments in 1859, 1860, 1861 and 1862, when New Orleans enjoyed an almost equal immunity from yellow fever, the deaths from this disease being in these years respectively, 1859, 92; 1860, 15; 1861, 0; 1862, 2. We have no data to show the actual number of deaths amongst the Federal troops on land and water in and around New Orleans, 1863-1865; that yellow fever was present during this period and that it *originated de novo in the port of New Orleans* is well established.

Dr. Elisha Harris, in his article, "*Yellow Fever on the Atlantic Coast and at the South during the War*," established that "Yellow fever visited twenty-five vessels in the fleet anchored in the river in front of New Orleans during the summer of 1864, and that the disease appeared first, namely, as early as September 12th, in vessels that had been for a long time anchored there. Filthiness, crowding, excessive heat and moisture, and utter lack of ventilation and lighting, together with the stagnation of the local atmosphere of these oven-like boats, incident to anchorage in a tideless stream, constitute the leading facts relating to the infected vessels."

The comparison of the preceding facts, with the statistics of yellow fever in the Charity Hospital, already presented, leads still more strongly to the conclusion, that epidemics of yellow fever occurred most frequently and prevailed to the greatest extent in those seasons in which a large number of passengers from foreign countries arrived in the city.

Thus the following number of passengers from foreign countries arrived in New Orleans and paid a specific tax to the Charity Hospital: 1842, 30,832; 1843, 24,930; 1844, 19,788; 1845, 29,979; 1846, 34,549; 1847, 41,052, 1848, 40,962; 1849, 43,398; 1850, 38,423; 1851, 36,376; 1852, 45,335; 1853, 34,870.

It will be observed that the mortality from yellow fever in the Charity Hospital, was, as a general rule, inversely proportional to the number of cases admitted. When a comparatively small number of cases were entered, the mortality was relatively great, reaching in 1831, 66 per cent., 1832, 69 per cent.; 1834, 63 per cent.; 1836, 83 per cent.; 1838, 77 per cent.; 1840, 100 per cent.; 1841, 53 per cent.; 1846, 65 per cent.; 1852, 68 per cent.; 1857, 65 per cent.; 1859, 78 per cent.; 1868, 62 per cent.; 1871, 68 per cent.; 1872, 72 per cent.; 1873, 63.55 per cent.; 1874, 66 per cent.; 1875, 68 per cent.; 1876, 66 per cent.

It would appear, therefore, that when the pestilence appears in a sporadic or even epidemic form, the mortality relative to the number of cases, is much above the average of wide-spread epidemics. Such facts sustain the view that the disease was strictly sporadic and showed no marked tendency to spread in New Orleans, in the period embracing 1871–1877, and that its limitation was due to exterior physical causes, and not to the

lavish and expensive and empirical use of carbolic acid within and around the premises where the disease appeared.

The mortality from yellow fever in the Charity Hospital, has been fearfully great, 13,079 deaths occurring in 26,938 admissions. That is 48.55 per cent., or nearly one-half of all the yellow fever patients admitted into the Charity Hospital during a period of 55 years (1822-1878) perished.

In 1878, the number of cases of yellow fever admitted to the Charity Hospital were less relatively to the number of victims to this disease, than in former epidemics, owing to the absence of foreigners, strangers and emigrants from the city.

The whole number treated was 817, with 411 deaths, or about 50 per cent. mortality. During the entire year there were in the Charity Hospital, 1120 deaths and 4615 discharges; remaining from 1877, 600. Total cases, 6335. Yellow fever, therefore, caused in the Charity Hospital, less than one-half the total mortality from all causes.

If the effort be made to determine the ratio of cases of yellow fever, in the different epidemics to the population of the city, the following data will serve for purposes of comparison.

The first authentic account of a yellow fever epidemic in New Orleans, was in 1796, and from this date to the present time 1879, embracing a period of 92 years, there have been thirty-eight epidemics, namely, in 1796, 1797, 1799, 1800, 1801, 1804, 1809, 1811, 1812, 1817, 1818, 1819, 1820, 1822, 1824, 1825, 1827, 1828, 1829, 1830. 1833, 1834, 1835, 1837, 1839, 1841, 1842, 1843, 1847, 1848, 1849, 1853, 1854, 1855, 1858, 1867, 1870, 1878. Of these 36 epidemics, 34 occurred between 1796 and 1755, a period of 59 years; a period of rapid movement and increase of the population of the city. Whilst during the past 22 years, 1856–1878, only four epidemics have occurred, namely, 1858, 1867, 1870 and 1878, a period of stagnation and of actual retrogression of the white population, in which the disease has gathered force in proportion to the unacclimated population. The mortuary records of many of these epidemics are either wholly wanting or are incomplete, and the data for the accurate determination of the relations of the mortality to the number of cases, are in most cases wanting.

We have shown that during a period of 62 years, 1817–1878, the deaths from yellow fever alone, numbered in New Orleans 41,829; and if the proportion of cases to deaths be estimated at 6 to 1 then we have an approximate estimate of 250,974 (two hundred and fifty thousand, nine hundred and seventy-four) cases of yellow fever in New Orleans, during a period of 62 years.

In 1817, deaths from yellow fever 823, or about one in 30 of the population; 1819, 425, 1 in 61.60 of population; 1820, 400. 1 in 67.72 of population, 1 in 6 of adults, white cases, and 1 in 10 of all others; 1822, 808 deaths, 1 in 39.24 of population; 1829, 900 deaths, 1 in 52.84 of population; 1832, 400 deaths, 1 in 137.71 of population; 1833, 1000 deaths, 1 in 57.71 of population;

1837, 1300 deaths, 1 in 52.48 of population; 1839, 800 deaths, 1 in 91.85 of population, in 892 cases. 68 deaths reported, or 1 in 13.1 cases; 1841, 1325, 1 death in 59.43 of population; in this year the proportion of deaths to cases was estimated by Dr. Thomas as 1 in 3; 1847, 2318 deaths, 1 death in 46.85 of population; the number of cases in 1847, has been estimated as high as 20,000, Dr. Thomas places them at 15,000, and the deaths at 2544, or 1 in about 40 of the population, and 1 in 6 of the cases and according to these estimates, the mortality in 1847, ranged between 1 in 6 and 1 in 8.62 cases; 1848, 872 deaths, 1 in 132.45 of population; 1849, 769 deaths, 1 in 159.72 of population.

In the great epidemic of 1853, the details for the correct estimate of the total number of cases of yellow fever, although still far from being perfect, were more precise than ever before in the history of the epidemics of New Orleans.

Dr. E. H. Barton estimates the entire population of New Orleans in 1853, to be 158,699, of which number 60,000 were susceptible to yellow fever; about 36,283 persons left the city during the epidemic, and the population during the summer amounted to at least 125,000; the total mortality from yellow fever reached 8,101; ratio of mortality from yellow fever to the the entire *permanent* city population, 1 in 19.02, or 5.25 per cent.; to remaining population, 1 in 15.43, or 6.48 per cent.; to unacclimated or susceptible population, 1 in 7.40 or 13.49 per cent.; total mortality of the year, deducting all other causes than disease, 1 in 10.19, or 9.8 per cent., and including all causes of mortality, 1 in 9.76, or 10.23 per cent.; total number of cases of yellow fever 29,020, deaths 8,101 or 27.91 per cent., or 1 death in 3.58 cases. In 1854, the deaths from yellow fever in New Orleans numbered 2425, or 1 death in 64.74 of the population; in 1855, 2670 deaths, or 1 death in 61.7 of the entire population; 1858, 4855 deaths from yellow fever, or 1 death in 34.1 of the population. The mortality from yellow fever alone in the six years, 1853-1858, reached 18,325. Total deaths from yellow fever in 1867, 3107, or 1 death in 59.2 of inhabitants, the number of cases have been variously estimated between 25,000 and 50,000. In 1867 the mortality amongst the cases treated has been variously estimated between 1 in 8 and 1 in 16; in the Charity Hospital however, it was much greater, 672 deaths occurring in 1493 cases, or 45.01 per cent., one death in 2.2 cases.

In 1870, the total deaths from yellow fever were 587, and the total cases have been estimated at about 1700, or 1 death in about 3 cases; 262 deaths occurred in 518 cases treated in the Charity Hospital, or 50.57 per cent. In 1878 the officially reported and recognized deaths by the Board of Health, numbered 4056, the number of cases was estimated variously between 25,000 and 30,000; if we accept the first figure, the ratio of deaths to cases was 1 in 6.16 cases. The total mortality for 1878, was 10,318 (exclusive of still-born, 599), of which 8062 were whites, and 2256 colored, making of all colors the ratio of

50.17 per 1000 of population, or 55.32 per 1000 white, and 39.13 per 1000 colored population. The number that died of yellow fever was 4046, of which 3863 were whites, and 183 were colored; 4046 deducted from 10316, would give for all other diseases 6272; making of all colors a ratio of mortality 30.62 per 1000 of population, or 28.31 per 1000 white population, and 33.95 of colored population. The ratio of mortality per 1000 from yellow fever was 19.30, and from malarial fevers, 3.77 of entire population.

We have thus established a close relationship between the origin and spread of yellow fever in New Orleans and the accumulation of unacclimated persons.*

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In confirmation of the view which I have advocated in the preceding pages, as to the prevalence of yellow fever in New Orleans, at remote periods, the testimony of the celebrated Andrew Ellicott, is worthy of the most careful consideration. In his Journal, Andrew Ellicott states that on the 15th of November, 1796, he "arrived at Gallipolis about eleven o'clock in the forenoon. This village is situated on a fine high bank on the west side of the river, and inhabited by a number of miserable French families. Many of the inhabitants that season fell victims to the yellow fever, which certainly originated in that place, and was produced by the filthiness of the inhabitants, and an unusual quantity of animal and vegetable putrefaction in a number of small ponds and marshes within the village. Of all the places I have yet beheld, this was the most miserable," p. 13. With reference to the climate of Natchez, he says: "The climate is very changeable during the winter, but the summer is regularly hot; during my residence at Natchez the greatest degree of cold was about 17°, and of heat 96°, by Farenheit's scale. The permanent degree of heat may be stated at about 14° beyond that of Pennsylvania. The conclusion is drawn from the following facts: In Pennsylvania the mean temperature of the best spring and well water is about 51°, and from the Mississippi east of the Atlantic, in the parallel of 31°, I found it about 65°, the difference is 14°." p. 135. "The weather during the summer season at New Orleans is warm, sultry and disagreeable; but during the cool months there are few places more desirable; it then abounds with health." "When the winds have been unfavorable, vessels have been known to be upwards of six weeks in going up to New Orleans from the Balize, which is a serious drawback upon the profits of a voyage; add to this the danger of sickness among the hands, if they should be unfortunately delayed in that low, marshy country in summer, or the beginning of autumn." p. 192.

Having finished his account of his labors in establishing the southern boundary of the United States, Andrew Ellicott recorded valuable observations on the prevailing diseases of Mississippi and Louisiana, that made their appearance whilst he was in these southern countries, during the years 1797, 1798 and 1799, from which we extract the following:

"The prevailing diseases in the lower part of the Ohio, on the Mississippi and through the Floridas, are bilious fevers, they varying their forms according to the state, or force of their remote and exciting causes. Some seasons they are little more than the common intermittents and remittents, which prevail in the Middle States, but in others they are highly malignant, and approach nearly to, if not become, the genuine yellow fever of the West Indies. Gen. Sinclair, who had the advantage of a medical education, and is, moreover, a gentleman of a discriminating mind and distinguished talents, has assured me that he is well convinced the yellow fever is an endemic complaint in a large portion of our south-western country where he resided as Governor a number of years," p. 288.

"It did not appear to me during my residence in the country that temperance by any means prevented the attacks of the fever; on the contrary the free-livers frequently escape it while the temperate suffer from it, but there is this difference to be observed, the temperate with good management generally recover, and on the contrary the others when attacked commonly sink under the complaint in a few days. The natives, though not wholly exempted from these fevers, are much less subject to them than strangers. This no doubt arises from a very natural cause, the constitutions of the natives are accommodated to the climate from their infancy, while the constitutions of strangers being moulded to a different one yield more readily to those diseases. For although the human species can exist in all climates, the constitution appears to be naturally adapted to that in which the person is born and raised, and therefore upon changing the climate the constitution is generally found to change also, and this change which is called the seasoning, is commonly effected by the prevailing endemic of the country. This change is very severe in the firm constitutions of our Northern citizens, which, like strong oaks in a tempest, are broken off or torn up by the roots, while weak constitutions, like flexible reeds, yield to the tempest, and rise when the storm is over.

At Natchez, in the month of June, 1797, we had a few cases of the fever among our people, but the complaint was not general until about the middle of July. The attacks were then severe, and one of my assistants and several of our people were then carried off. Some of those who survived, were for several months extremely debilitated by frequent relapses, which appear to be almost unavoidable in that country," pp. 290, 291.

Andrew Ellicott was himself attacked with a severe and dangerous fever on the 7th of October, which left him greatly debilitated;

## RELATIONS OF MALARIAL AND YELLOW FEVER TO CLIMATE.

Malarial fevers prevail chiefly in the summer and autumn in New Orleans, but they are never absent during any portion of the year. Yellow fever on the other hand prevails chiefly during the months of June, July, August, September and October, the heaviest mortality occurring as a general rule in August and September, as will be seen from the following tables:

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With reference to the causes of those fevers, and especially of yellow fever, Ellicott observes: "It has been doubted by some, whether the climate of the Middle and some of the Northern States is capable of producing the malignant fever of our Southern States and the West India Islands: but these doubts would, in my opinion be removed from the mind of any person who would reside for a few years in the latter, unless he was previously wedded to a preconceived hypothesis or supposed facts, and his mind entrammelled by prejudice.

A reluctance to admit truth, is little less injurious than the propagation of falsehood, and the longer we contend that the climate of the Middle and some of the Northern States is incapable of generating the malignant fevers of the Southern States and West Indies, the longer we shall be in danger of suffering by those scourges: for while our measures are only taken to oppose a foreign enemy, a domestic one may begin its ravages. Experience teaches us that there are generally three things necessary to the production of the malignant Southern fevers, *first*, heat; *secondly*, water, swamps or marshes; and *thirdly* a collection of persons. And whenever we have a long continuation of heat, aided by the miasmata from impure water, and marshes partially dry, coated with putrid vegetables, added to a large collection of persons, each of whom by respiration is constantly rendering one gallon of air per minute unfit for the functions of animal life, we are in danger of being attacked by a malignant fever.

From the locality of those fevers in the United States, may not a conclusion be fairly drawn, that the cause, or causes, is, or are, in some degree local also, for if this were not the case, these fevers would not be confined to our large towns on the water, but extend generally over the face of the country, which is contradicted by experience. And again, if the fever had its origin from importation, why is it confined to particular places? The answer it is presumed, would be, that in these places there is a greater predisposition from some exciting cause, whatever it may be, to receive the infection. Now let us see to what point this answer would conduct us. If in these places there is a greater predisposition to receive the infection, it follows, that this predisposition in some degree depends upon local causes which produce this predisposition to receive the infection, can from concurring circumstances be increased, may not a just and logical conclusion be drawn, that they may be so heightened, as to produce that species of fever, which in a milder form they prepare the system for.

As these fevers appear evidently to depend in part upon local causes, the means of prevention will in an equal degree depend upon removing or correcting those causes.

It is the opinion of many persons, that our large commercial cities would be materially injured, if they were thought capable of producing the malignant fevers of our Southern country and the West Indies. This opinion however plausible, certainly rests upon a slender foundation, because this opinion alone cannot prevent the recurrence of these fevers, and it must be the recurrence whatever may be the origin, that will eventually be found injurious.

If the fevers can possibly be generated in our larger commercial cities, in the Middle and Southern States, we may, as has already been observed, be attacked by a domestic enemy, while our measures are only taken to avoid a foreign one: and if it should be discovered that these fevers are not of domestic origin, it must be granted that from some cause or other, there is a greater predisposition to receive the infection in our large towns and villages, situated on our rivers, than in other places: an investigation of this cause would therefore be a subject of the highest importance, for in all probability, the removing the cause would secure us against this scourge, so injurious to the interests, population and happiness of our country," pp. 293, 294.

"*The Journal of Andrew Ellicott, late commissioner on behalf of the United States, during part of the* 1796, *the years* 1797, 1798, 1799 *and part of the year* 1800, *for determining the boundary between the United States, and the possessions of His Catholic Majestyin America*," Philadelphia, 1814.

The just and philosophical observations of Andrew Ellicott, expressed eighty years ago, may well be considered at the present day, when the advocates of quarantine attribute every epidemic of yellow fever to *foreign importation* and close their eyes blindly to those local causes of disease which the experience of three centuries have shown to be so destructive to human life, in tropical, sub-tropical and Insular America.

*Monthly Deaths by Yellow Fever during a period of* 32 *Years*, 1847–1878.

| Year. | May. | June. | July. | August. | September. | October. | November. | December. | Tot. deaths by Yellow Fever. | Date of First Case. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1847 | .. | .. | 74 | 965 | 1100 | 198 | 33 | .... | 2359 | July 6th. |
| 1848 | .. | 4 | 33 | 200 | 467 | 226 | 20 | . | 759 | June 21st. |
| 1849 | .. | .. | 1 | 17 | 214 | 416 | 112 | 9 | 769 | July 28th. |
| 1850 | 1 | .. | 4 | 62 | 33 | 4 | .... | .... | 107 | 1 death Jan., 2 Mar., 1 May |
| 1851 | .. | .. | .... | 8 | 6 | 2 | 1 | .... | 17 | |
| 1852 | .. | .. | 2 | 8 | 91 | 198 | 105 | 11 | 415 | July. |
| 1853 | 2 | 31 | 152 | 5133 | 982 | 147 | 28 | 4 | 7849 | May 22d. |
| 1854 | .. | 2 | 29 | 532 | 1234 | 490 | 131 | 7 | 2425 | 1st death June 12th. |
| 1855 | .. | 5 | 382 | 1286 | 874 | 97 | 19 | 7 | 2670 | June 19th. |
| 1856 | .. | .. | .... | 14 | 40 | 16 | 4 | 7 | 74 | June 28th. |
| 10 y'rs | 3 | 42 | 2046 | 8225 | 5041 | 1796 | 453 | 38 | 17,444 | |
| 1857 | .. | 1 | 1 | 1 | 8 | 98 | 82 | 8 | 200 | 1 death reported in Janu'y |
| 1858 | .. | 2 | 132 | 1140 | 2204 | 1137 | 224 | 5 | 4845 | 1 death reported Jan. 10th |
| 1859 | .. | .. | .... | ..... | 1 | 59 | 28 | 3 | 91 | June. |
| 1860 | .. | .. | 3 | 7 | 5 | .... | .... | ... | 15 | |
| 1861 | .. | .. | .... | ..... | ..... | ... | .... | .... | 0 | |
| 1862 | .. | . | 1 | ..... | 1 | .... | .... | .... | 2 | |
| 1863 | .. | .. | ... | ..... | 2 | .... | .... | .... | 2 | About 100 cases in U. S. river fleet. |
| 1864 | | .. | .... | ..... | ..... | 4 | 1 | 1 | 6 | About 200 cases and 57 deaths U. S. gunboats and river fleet. |
| 1865 | .. | .. | .... | 1 | ..... | .... | .... | ... | 1 | |
| 1866 | .. | .. | .... | 5 | 56 | 89 | 31 | 4 | 185 | 1 death 10th August. |
| 10 y'rs. | . | 3 | 137 | 1154 | 2277 | 1387 | 339 | 21 | 5347 | |
| 1867 | .. | 3 | 11 | 255 | 1637 | 1072 | 103 | 26 | 3107 | 1 case died June 10th. |
| 1868 | .. | . | | .. | ..... | 5 | ... | .... | 5 | Oct. 5, died in Charity Hosp. |
| 1869 | .. | .. | 1 | ..... | ..... | 2 | .... | .... | 3 | July 17th. |
| 1870 | | 1 | ... | 3 | 231 | 242 | 106 | 5 | 588 | May 26th. |
| 187. | .. | .. | .... | 2 | 9 | 22 | 19 | 2 | 54 | July 30th. |
| 1872 | .. | .. | .... | 1 | 5 | 24 | 7 | 2 | 39 | August 28th. |
| 1873 | .. | .. | 3 | 19 | 108 | 79 | 17 | .... | 226 | July 9th. |
| 1874 | | .. | .... | ..... | 2 | 6 | 2 | 1 | 11 | August 19th. |
| 1875 | .. | .. | .... | 5 | 24 | 20 | 9 | 3 | 61 | August 8th. |
| 1876 | .. | .. | .... | 1 | 19 | 17 | 4 | 1 | 42 | August 11th. |
| 10 y'rs. | .. | 4 | 15 | 288 | 2037 | 1484 | 267 | 39 | 4136 | |
| 1877 | .. | .. | .... | ..... | ..... | .... | 1 | .... | 1 | November. |
| 1878 | 2 | .. | 50 | 974 | 1893 | 1044 | 90 | 3 | 4056 | May 22d. |
| 2 y'rs. | 2 | .. | 50 | 974 | 1893 | 1044 | 91 | 3 | 4057 | |
| 32 y'rs. | 5 | 49 | 2248 | 10,641 | 11,158 | 5711 | 1150 | 101 | 30,984 | |

From the preceding table it is evident that as a general rule the great epidemics, as those of 1847, 1848, 1849, 1853, 1854, 1855, 1858, 1867 and 1878, commenced early in the hot months, May, June and July, and attained their maximum intensity in August and September. Thus, during the entire period of 32 years, the deaths from yellow fever in New Orleans were as follows: January 6, February 0, March 2, April 0, May 5, June 49, July 2248, August 10,641, September 11,158, October 5711, November 1150, December 101.

The curve of yellow fever, therefore, corresponds to a certain extent with the curve of temperature. Thus, from the records of 38 years, which I have consolidated and calculated from the most reliable data, the mean temperature of New Orleans is as follows: January 56.28, February 58.03, March 64.27, April 69.41, May 75.00, June 81.35, July 83.21, August 83.14, September 79.64, October 70.27, November 62.30, December 56.43, Spring 69.56, Summer 82.53, Autumn 70.75, Winter 56.91, year 69.51 F.

The origin and spread of yellow fever therefore depends absolutely upon an elevated temperature ranging from 70° to 85°, and its decline depends upon a mean temperature ranging from 65° to 56° F. These figures of course relate to the mean or averge monthly temperature, the extremes being much higher and lower, ranging during the year in New Orleans, as shown by meteorological observations extending from 1817 to 1878, from 16° to 100° F.

On the other hand the various forms of malarial fever are more uniformly distributed throughout the months of the year, although this class of diseases as well as yellow fever, show their maximum intensity in number of cases and fatality in those months of the year, in which the temperature is most favorable to the putrefaction of animal and vegetable matters, and the development of the lower and most prolific forms of animal and vegetable life, and especially those forms which are active agents in putrefaction and fermentation. Thus the deaths caused by the various forms of malarial fever, were in 1878, as follows: January 6, February 3, March 9, April 15, May 12, June 13, July 25, August 136, September 146, October 111, November 41, December 6.

The mortuary records, however, give but an imperfect and delusive view of the relative prevalence of the various forms of paroxysmal or malarial fever in New Orleans, from the well known fact, that these diseases rarely prove fatal. The favorable results obtained in the treatment of intermittent, remittent and congestive malarial fever, are at the present day mainly due to the free and prompt administration of quinine by the physicians of this city and of other parts of the Southern country.

The relationship of the forms of malarial fever, to the climate and seasons, and to other diseases as yellow fever, are best established by the statistics of fever hospitals situated in malarial

districts, where also yellow fever is at times endemic and epidemic.

The records of the Charity Hospital of New Orleans furnish the best field for such inquiries, as it has been justly regarded as one of the great fever hospitals of the world. The following statistics will serve as illustrations of the numerical relations of malarial fevers to climate and yellow fever.

It appears from the records of the Charity Hospital, that during a period of ten (10) years—1st January, 1841, to 1st of January, 1851, there were admitted into this hospital 91,892 patients; of which number there were admitted of *all the different forms of fever* 45,149; and among these last for intermittent fevers, 25,183.

It would thus appear that nearly one-half of all the patients admitted into this hospital were for the different forms or types of *fever* and that *more than half of these were* intermittents. It should be mentioned that this vast number of patients, included a lunatic asylum, having from sixty to ninety inmates, up to June, 1848, when it was removed to Jackson. This large number of fever patients included many that were imported by sea, and brought from neighboring States and foreign countries, and furnished also by the army of Mexico, which twice passed, during this period, through New Orleans. The intermittent and paroxysmal form of fevers, mostly originate in the Mississippi Valley, whilst the continued fevers are mostly imported.

The following statement will show the prevalence of intermittent fevers at the different seasons of the year, for the time specified.

*Table of Admissions of Cases of Intermittent Fever, in Charity Hospital of New Orleans, in the different Seasons of the Year.* 1841-1849, *inclusive.*

Intermittent Fever.

| Year. | Spring. | Summer. | Autumn. | Winter. | All Fevers. | Yellow Fever. |
|---|---|---|---|---|---|---|
| 1841 | 112 | 403 | 177 | 92 | 1991 | 1113 |
| 1842 | 114 | 453 | 394 | 135 | 1758 | 410 |
| 1843 | 85 | 208 | 413 | 137 | 2222 | 1053 |
| 1844 | 117 | 469 | 732 | 231 | 2207 | 152 |
| 1845 | 180 | 353 | 664 | 206 | 1763 | 1 |
| 1846 | 236 | 569 | 1045 | 218 | 2603 | 148 |
| 1847 | 391 | 508 | 691 | 602 | 6901 | 2811 |
| 1848 | 282 | 689 | 874 | 535 | 6361 | 1234 |
| 1849 | 420 | 1701 | 3738 | 1275 | 7575 | 1060 |
| Total. | 2443 | 5353 | 7728 | 2331 | 33,381 | 9782 |

During the years specified, there was but one single year (1845), in which New Orleans was exempt from yellow fever.

It is evident, from this table that intermittent fever prevails in New Orleans the year round, gradually increasing from the winter up to the autumn, when it begins to decline. Whilst variations appear in different seasons and years, and whilst the cases were most numerous when there was less yellow fever; still intermittents are never absent, even when yellow fever commits its greatest ravages, as in 1841, 1847, 1848 and 1849.

If during the nine years specified, the months be selected in which yellow fever prevailed to the greatest extent, the following relations to the cases of this disease and malarial fever, will be established.

*Fever Statistics, Charity Hospital, New Orleans, La.—Tables showing the Annual and Monthly Admissions of the Different Fevers.*

| Year. | Total admissions. | Fevers. | Jan. | Feb'y. | March. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total Fevers. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1841 | 4380 | Intermittent... | 3 | 27 | 45 | 39 | 28 | 65 | 187 | 151 | 18 | 66 | 93 | 72 | 794 |
| | | Typhoid ..... | 1 | .. | .. | .. | | | .. | .. | .. | .. | 5 | 6 | 12 |
| | | Congestive .... | 4 | 3 | 1 | .. | | .. | 7 | 3 | .. | 3 | 1 | 2 | 24 |
| | | Remittent..... | 3 | 2 | .. | 2 | 9 | 6 | 31 | 13 | 5 | 1 | 7 | 2 | 39 |
| | | Mal'g, Intermt. | . | .. | .. | .. | .. | .. | 3 | 3 | .. | .. | .. | .. | 6 |
| | | Yellow..... | . | .. | .. | .. | .. | .. | .. | 174 | 642 | 252 | 37 | 8 | 1113 |
| | | Bilious..... | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| | | Total....1841 | 11 | 32 | 46 | 41 | 37 | 71 | 228 | 362 | 665 | 322 | 143 | 93 | 1991 |
| 1842 | 4404 | Intermittent .. | 45 | 29 | 35 | 39 | 45 | 124 | 160 | 169 | 144 | 140 | 110 | 61 | 1092 |
| | | Remittent..... | 4 | .. | 1 | 3 | 4 | 8 | 12 | 34 | 41 | 35 | 11 | 3 | 155 |
| | | Typhoid ..... | 9 | 2 | .. | .. | .. | 4 | .. | .. | 2 | 2 | 2 | 1 | 22 |
| | | Bilious..... | .. | .. | .. | 2 | .. | 3 | 9 | 3 | 1 | 2 | 2 | 1 | 23 |
| | | Congestive.... | 1 | .. | 3 | 3 | 2 | .. | 10 | 5 | 4 | 9 | 2 | 1 | 40 |
| | | Gastric..... | .. | .. | .. | .. | 1 | 2 | 6 | 1 | .. | .. | .. | 1 | 11 |
| | | Catarrhal..... | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 3 |
| | | Yellow..... | .. | .. | | .. | .. | .. | .. | 47 | 247 | 93 | 23 | .. | 410 |
| | | Nervous..... | .. | .. | .. | .. | .. | .. | . | .. | .. | 1 | .. | .. | 1 |
| | | Adynamic..... | .. | .. | .. | .. | .. | . | .. | .. | .. | 1 | .. | .. | 1 |
| | | Total.....1842 | 59 | 31 | 39 | 47 | 52 | 142 | 197 | 259 | 439 | 284 | 150 | 79 | 1758 |
| 1843 | 5013 | Intermittent... | 31 | 30 | 35 | 31 | 19 | 40 | 70 | 98 | 128 | 136 | 149 | 76 | 843 |
| | | Typhoid ..... | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 4 |
| | | Remittent..... | 1 | .. | .. | 1 | .. | 9 | 40 | 75 | 49 | 12 | 8 | 10 | 205 |
| | | Catarrhal..... | 1 | .. | .. | . | .. | . | .. | 1 | .. | .. | .. | .. | 2 |
| | | Bilious..... | 1 | .. | .. | 1 | 15 | 3 | 37 | 5 | 2 | 2 | 3 | 2 | 71 |
| | | Typhus..... | .. | .. | .. | .. | .. | 3 | 6 | .. | .. | .. | .. | .. | 9 |
| | | Congestive .... | .. | .. | .. | .. | .. | 3 | 17 | 4 | .. | .. | .. | .. | 24 |
| | | Gastric..... | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | .. | .. | 4 | 7 |
| | | Continued .... | .. | . | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| | | Yellow..... | .. | .. | .. | .. | .. | .. | 32 | 188 | 365 | 351 | 111 | 15 | 1053 |
| | | Cephalic..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| | | Total.. .1843 | 36 | 30 | 35 | 33 | 34 | 60 | 194 | 372 | 544 | 501 | 273 | 107 | 2222 |

*Fever Statistics of Charity Hospital*—Continued.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1844 | 5846 | Intermittent .. | 66 | 49 | 41 | 32 | 44 | 75 | 176 | 258 | 255 | 261 | 216 | 116 | 1589 |
| | | Remittent .... | 2 | 4 | 2 | 1 | 4 | 24 | 30 | 47 | 67 | 55 | 5 | 3 | 244 |
| | | Yellow..... | 2 | 2 | .. | .. | .. | 1 | 1 | 1 | 68 | 52 | 25 | .. | 152 |
| | | Typhoid ..... | 6 | .. | 1 | 3 | .. | 3 | 10 | 12 | 11 | 8 | 6 | 20 | 80 |
| | | Simple.. ..... | 3 | 6 | 3 | .. | .. | | .. | .. | .. | .. | .. | .. | 12 |
| | | Gastric..... | 1 | .. | .. | .. | 2 | 1 | .. | .. | 5 | 2 | .. | .. | 11 |
| | | Typhus. ..... | .. | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| | | Bilious..... | .. | .. | 2 | 4 | 2 | .. | 1 | .. | .. | 3 | .. | 1 | 13 |
| | | Inflammatory.. | .. | .. | 1 | .. | .. | .. | 2 | .. | 2 | 2 | 2 | 2 | 11 |
| | | Congestive .... | .. | .. | .. | 1 | 7 | 11 | 17 | 14 | 13 | 15 | .. | 3 | 81 |
| | | Adynamic..... | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | 4 |
| | | Continned..... | .. | .. | .. | .. | .. | 2 | .. | .. | .. | 3 | .. | .. | 5 |
| | | Eruptive ..... | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. |
| | | Total....1844 | 80 | 65 | 50 | 41 | 59 | 117 | 239 | 333 | 423 | 401 | 254 | 145 | 2207 |
| 1845 | 6136 | Intermittent... | 7 | 75 | 57 | 44 | 79 | 112 | 145 | 96 | 279 | 196 | 189 | 124 | 1403 |
| | | Typhoid..... | 7 | 6 | 5 | 2 | 10 | 8 | 11 | 14 | 18 | 20 | 15 | 23 | 139 |
| | | Remittent. .... | 2 | 1 | .. | 1 | 11 | 17 | 38 | 34 | 33 | 17 | .. | .. | 154 |
| | | Congestive.... | 3 | .. | 1 | .. | 1 | 2 | 1 | 4 | 5 | 4 | . | . | 21 |
| | | Inflammatory.. | 2 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 4 |
| | | Yellow..... | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| | | Continued..... | .. | 1 | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | 5 |
| | | Nervous..... | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | .. | .. | .. | 3 |
| | | Bilious..... | .. | .. | .. | 1 | 2 | 6 | 1 | 1 | 1 | 2 | .. | .. | 14 |
| | | Simple..... | .. | .. | .. | 1 | .. | 4 | 1 | 1 | 1 | 1 | .. | .. | 9 |
| | | Pernicious.... | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. | 4 |
| | | Other fevers... | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | 1 | 6 |
| | | Total....1845 | 21 | 84 | 63 | 52 | 106 | 151 | 201 | 151 | 339 | 241 | 206 | 148 | 1763 |

| Year. | Total admissions. | Fevers. | Jan. | Feb'y. | March. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total Fevers. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1846 | 8044 | Intermit'nt | 79 | 58 | 75 | 76 | 85 | 138 | 214 | 227 | 359 | 376 | 310 | 81 | 2078 |
| | | Typhoid. .. | 30 | 13 | 7 | 5 | 10 | 12 | 14 | 17 | 5 | 7 | 23 | 52 | 195 |
| | | Remittent. | 3 | 3 | 5 | .. | 7 | 6 | 2 | 9 | 22 | 36 | 7 | 3 | 103 |
| | | Congestive. | .. | | 1 | .. | 1 | 2 | 4 | 2 | 5 | 9 | 2 | 5 | 31 |
| | | Yellow..... | .. | .. | .. | .. | .. | .. | .. | | 29 | 83 | 32 | 4 | 148 |
| | | Bilious .... | .. | .. | .. | 1 | .. | 1 | .. | .. | 2 | .. | .. | .. | 4 |
| | | Pernicious. | 2 | . | .. | .. | | .. | .. | .. | 9 | .. | .. | .. | 11 |
| | | Catarrhal . | .. | .. | | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| | | Nervous.... | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 3 |
| | | Scarlet .... | 2 | | 2 | .. | 1 | 2 | .. | .. | .. | 1 | .. | .. | 8 |
| | | Malignant . | .. | .. | .. | .. | .. | . | 2 | .. | .. | .. | .. | .. | 2 |
| | | Larvata.... | .. | .. | . | .. | .. | .. | .. | .. | 2 | 2 | 1 | 1 | 6 |
| | | Pern'c's in't | .. | .. | .. | .. | .. | .. | .. | .. | | 6 | 4 | 1 | 11 |
| | | Gas. Hep'tc | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| | | Ataxic..... | .. | .. | | .. | | .. | .. | .. | .. | .. | 1 | .. | 1 |
| | | Total. 1846 | 117 | 75 | 90 | 83 | 104 | 161 | 246 | 255 | 433 | 522 | 380 | 147 | 2603 |
| 1847 | 11,890 | Intermit'nt | 144 | 117 | 98 | 153 | 140 | 211 | 223 | 74 | 53 | 258 | 380 | 341 | 2192 |
| | | Typhoid.... | 40 | 21 | 50 | 73 | 66 | 20 | 7 | 2 | 1 | 6 | 60 | 111 | 457 |
| | | Typhus.. .. | .. | 2 | 4 | 107 | 165 | 369 | 57 | 1 | .. | 4 | 100 | 236 | 1045 |
| | | Remittent . | 1 | 1 | 4 | 9 | 17 | 38 | 69 | 64 | 25 | 12 | 18 | 8 | 269 |
| | | Congestive. | 1 | 1 | 1 | 2 | 3 | 12 | 10 | 1 | | 1 | 2 | 2 | 36 |
| | | Yellow..... | .. | .. | .. | .. | .. | 5 | 148 | 1611 | 777 | 219 | 49 | 2 | 2811 |
| | | Bilious... . | 2 | .. | .. | 2 | .. | 4 | 7 | 2 | 1 | 9 | 7 | 8 | 42 |
| | | Pern. Int'm | 1 | . | . | .. | 2 | 1 | .. | | .. | 1 | .. | .. | 5 |
| | | Other fev's. | 1 | .. | .. | | 3 | 1 | .. | 1 | .. | 2 | 6 | 26 | 40 |
| | | Total, 1847 | 193 | 142 | 157 | 346 | 396 | 661 | 521 | 1756 | 857 | 512 | 622 | 834 | 6897 |

*Fever Statistics of Charity Hospital*—Continued.

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1848 | 11,945 | Intermit'nt | 187 | 115 | 101 | 72 | 110 | 160 | 219 | 310 | 299 | 334 | 271 | 233 | 2411 |
| | | Remittent | 5 | 8 | 17 | 14 | 25 | 57 | 101 | 87 | 64 | 68 | 39 | 5 | 490 |
| | | Typ's, typ'd | 520 | 588 | 267 | 169 | 117 | 28 | 23 | 11 | 9 | 56 | 64 | 30 | 1883 |
| | | Yellow | .. | .. | .. | .. | 2 | 2 | 31 | 462 | 597 | 105 | 34 | 1 | 1234 |
| | | Catarrhal | 10 | .. | .. | 1 | .. | 2 | .. | .. | .. | .. | . | .. | 13 |
| | | Bilious | 22 | 17 | 11 | 14 | 4 | 13 | 32 | 27 | 19 | 6 | 5 | 3 | 173 |
| | | Ephemeral | 10 | 5 | 8 | 6 | 4 | 3 | 5 | 14 | 9 | 5 | .. | 4 | 83 |
| | | Congestive | 2 | .. | 2 | 2 | 3 | 13 | 8 | 16 | 2 | 1 | 4 | 1 | 54 |
| | | Scarlet | .. | .. | .. | 2 | 1 | 1 | 1 | 2 | .. | .. | .. | .. | 7 |
| | | Dengue | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 1 | 1 | . | 7 |
| | | Puerperal | .. | .. | .. | . | .. | .. | .. | .. | . | .. | 1 | . | 1 |
| | | Continued | 1 | 1 | .. | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | 6 |
| | | Total, 1848 | 757 | 734 | 406 | 280 | 267 | 280 | 421 | 929 | 1004 | 576 | 420 | 277 | 6361 |
| 1849 | 15,558 | Intermit'nt | 109 | 114 | 138 | 117 | 69 | 155 | 368 | 592 | 763 | 720 | 360 | 684 | 4439 |
| | | Typhus | .. | 127 | 193 | 140 | 128 | 65 | 43 | 44 | 49 | 21 | 23 | 58 | 891 |
| | | Typhoid | 79 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 79 |
| | | Remittent | 5 | 10 | 13 | 14 | 30 | 49 | 72 | 166 | 223 | 116 | 76 | 50 | 824 |
| | | Bilious | 6 | 6 | 19 | 9 | 6 | 10 | 39 | 20 | 11 | 3 | 1 | .. | 130 |
| | | Yellow | .. | .. | .. | .. | .. | .. | 2 | 28 | 374 | 520 | 130 | 6 | 1060 |
| | | Ephemeral | 4 | 8 | 18 | 18 | 6 | 2 | 7 | 8 | 7 | 1 | 2 | 1 | 82 |
| | | Congestive | . | .. | .. | .. | 1 | 4 | 2 | 6 | 8 | 8 | 4 | 6 | 39 |
| | | Puerperal | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 1 | .. | .. | 4 |
| | | Scarlet | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| | | Cerebral | 1 | .. | .. | . | 1 | .. | .. | .. | 1 | .. | .. | .. | 3 |
| | | Continued | 1 | .. | . | .. | .. | 6 | 6 | 1 | 2 | 2 | 1 | 1 | 20 |
| | | Total, 1849 | 205 | 265 | 381 | 298 | 241 | 293 | 590 | 869 | 1418 | 1392 | 806 | 806 | 7575 |
| 1850 | 18,676 | Intermit'nt | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7891 |
| | | Remittent | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2278 |
| | | Bilious | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 80 |
| | | Congestive | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 31 |
| | | Cong. Inter | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 103 |
| | | Typhous | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1044 |
| | | Cong. remit | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| | | Malig in'mt | .. | .. | .. | .. | .. | . | .. | .. | .. | .. | .. | .. | 34 |
| | | Continued | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | 77 |
| | | Ephemeral | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 83 |
| | | Malignant | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| | | Puerperal | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| | | Scarlet | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| | | Ataxic | . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| | | Yellow | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 |
| | | Dengue | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| | | Mesenterica | .. | .. | . | .. | .. | . | .. | .. | .. | .. | .. | .. | 1 |
| | | Total, 1850 | | | | | | | | | | | | | 11,768 |

Tables 1841–1849, embrace those consolidated from records of Charity Hospital by Dr. Fenner.

It is thus made evident that paroxysmal fevers prevail every year and in every month of the year in New Orleans, thus presenting a marked contrast to the prevalence of yellow fever, which is shut up to much narrower limits.

It appears that the cause of yellow fever, requires for its generation and propagation a higher degree of heat, and that the conditions of its existence are more narrowly defined than those of malarial fever. The cause of the latter disease not only resists successfully a much lower temperature than that of yellow fever, but when once engrafted on the human system,

it is far more persistent and indefinite in its duration, and in fact in many cases produces such profound alterations in the constitution of the blood and in certain organs as the spleen and liver, as to constitute a condition of the system, which may underlie and modify supervening diseases. In this respect therefore, the prolonged action of the malarial poison, resembles that of syphilis, in that it produces radical changes in the blood and arteries.

Yellow fever, on the contrary, acts as a specific well defined disease, affecting as a general rule, the constitution but once, and in the vast majority of cases leaving no recognizable traces of its action.

## CLIMATE OF NEW ORLEANS --ITS RELATIONS TO MALARIAL AND YELLOW FEVERS, MONTHLY AND ANNUAL ELEVATIONS AND DEPRESSIONS AND MEAN OF TEMPERATURES---SUMMARY OF METEOROLOGICAL OBSERVATIONS.

I have consolidated the following tables from the most reliable sources, and they constitute valuable records for present and future records in the study of epidemics in New Orleans and the Mississippi Valley:

*Monthly Mean Temperatures; Mean Temperatures, Spring, Summer, Autumn and Winter; Mean Annual Temperature in New Orleans, La., lat.29° 57′, long. 90°50′ alt. 10 ft. Consolidated by Joseph Jones, M.D.*

| | Year. | Jan'ry. | Febru'y. | March. | April. | May. | June. | July. | August. | Septem'r | October. | Novem'r. | Decem'r. | Spring. | Summer. | Autumn. | Winter. | Year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1820 | ..... | ..... | ... | 73.00 | 79.00 | 86.00 | 82.00 | 85.00 | 81.00 | 65 00 | 57.00 | 60.00 | ... | 84 33 | 67.66 | ..... | ..... |
| | 1822 | 52.90 | 51.60 | 64.10 | 70.80 | 72.20 | 84.30 | 81 50 | 82.80 | 79.50 | 71.40 | 67.30 | 57.70 | 68.86 | 82.86 | 72.73 | 54.06 | 70.10 |
| | 1825 | 53.26 | 53.33 | 67.80 | 66.90 | 81.82 | 88.54 | 82.95 | 84.33 | 80.17 | 65 70 | 62.60 | 44.00 | 72.17 | 85.27 | 69.49 | 50.21 | 68.90 |
| | 1826 | 53.20 | 63.27 | 70.71 | 72.54 | 77.61 | 83.24 | 84.16 | 85.15 | 86.64 | 72.97 | 65.55 | 58.28 | 78.62 | 84.18 | 73.05 | 58.25 | 72.27 |
| | 1827 | 56.74 | 66.85 | 64.31 | 73.03 | 74.00 | 82.65 | 84.50 | 82.40 | 80.60 | 67.57 | 62.04 | 62.00 | 70.11 | 83.15 | 71.91 | 61.86 | 72.30 |
| | 1828 | 64.58 | 66.01 | 65.34 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 1832 | ..... | ..... | ..... | 60.50 | 74.25 | 78.64 | 82.75 | 82.52 | 77.65 | ..... | ..... | ..... | ..... | 81.30 | ..... | ... | ..... |
| | 1833 | 55.37 | 60.35 | 60.71 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 1834 | ... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 70.74 | 68.08 | 59.10 | ..... | ..... | ..... | ..... | ..... |
| | 1835 | 51.60 | 49.60 | 60.40 | 68.00 | 79.50 | 81.80 | 81.10 | 83.00 | 76.60 | 69.90 | 63.70 | 63.90 | 69.30 | 81.63 | 66.73 | 51.70 | 68.30 |
| | 1838 | 56.61 | 52 38 | 64.10 | 67.19 | 68.65 | 82.07 | 82.47 | 82.11 | 77.85 | 68.39 | 57 07 | 52.85 | 66 65 | 82.22 | 67.60 | 58.95 | 67.61 |
| | 1839 | 56.22 | 54.48 | 60.96 | 70.98 | 77.33 | 83.03 | 82.48 | 82.25 | 79.22 | 75.35 | 57.40 | 48.09 | 69.76 | 82.59 | 70.67 | 52.93 | 68.99 |
| | 1840 | 55.09 | 61.77 | 69.15 | 70.38 | 77.30 | 79.97 | 85.56 | 84 96 | 78.91 | 74.32 | 65.66 | 56.13 | 73.61 | 83.50 | 72.96 | 57.66 | 71.96 |
| | 1841 | 55.46 | 55.61 | 64.81 | 71.62 | 76.17 | 84.35 | 87.02 | 83.86 | 78.48 | 69.17 | 61 83 | 55.40 | 70.87 | 85.08 | 70.16 | 55.49 | 70.40 |
| | 1842 | 56.96 | 58.50 | 71.35 | 69 80 | 74.96 | 80.56 | 80.25 | 79.58 | 78.63 | 69.03 | 59 06 | 53.29 | 72.03 | 80.13 | 68.91 | 55 25 | 69.33 |
| | 1843 | 55.43 | 54.16 | 62.03 | 70.85 | 75.79 | 78.50 | 81.40 | 80.20 | 80.60 | 68.20 | 68.18 | 55.77 | 62.22 | 80.08 | 69.04 | 56.12 | 67.61 |
| | 1844 | 58.54 | 59.28 | 68.55 | 72.52 | 78.46 | 79.80 | 84.30 | 82.00 | 79.10 | 68 20 | 65.02 | 57.18 | 71.51 | 81.51 | 70.75 | 58.33 | 70 52 |
| | 1845 | 57.25 | 59.91 | 62.11 | 72.75 | 73.20 | 79.46 | .... | .... | .... | .... | .... | .... | 69.85 | .... | .... | .... | .... |
| | 1846 | .... | .... | 61.50 | 67.16 | 75.28 | 80.14 | 82.73 | ..... | ..... | 68 82 | 63.94 | 62.14 | 67.98 | .... | ..... | ..... | ..... |
| | 1847 | 54.85 | 57.30 | 61.90 | 71.48 | 76.56 | 78.75 | 81.82 | 82.68 | 77 85 | 71.16 | 69.37 | 58.25 | 69.98 | 81.08 | 71.13 | 55.13 | 69.33 |
| | 1848 | 58.18 | 61.67 | 64.38 | 68.39 | 76.47 | 82.86 | 80.42 | 81.25 | 79.51 | 73.67 | 59 58 | 59.43 | 69.73 | 81.51 | 79.92 | 59.76 | 70.48 |
| | 1849 | 60.89 | 56.08 | 70.17 | 71.00 | 76 82 | 81.08 | 81.10 | 85.10 | 81.00 | 69.80 | 66.00 | 61.90 | 72.63 | 82.42 | 72.23 | 59.62 | 71.70 |
| | 1850 | 59.31 | 55.32 | 63.89 | 68.13 | 72.26 | 76.12 | 82.54 | 86.10 | 83.40 | 66.41 | 60.58 | 55.49 | 68.09 | 81.58 | 70.13 | 56.71 | 79.16 |
| | 1851 | 54 43 | 59.79 | 61.64 | 68 24 | 75 80 | 83.10 | 85 20 | 84.00 | 80.50 | 69.67 | 60.89 | 55.21 | 68.23 | 84.10 | 70 35 | 56.48 | 71.50 |
| | 1852 | 46.59 | 62.10 | 63.96 | 67.27 | 78.10 | 80 80 | 84.00 | 83.20 | 80.90 | 74 25 | 61.37 | 61.98 | 69.77 | 82.66 | 72.17 | 56.89 | 70.40 |
| | 1853 | 50.65 | 56.51 | 62.70 | 70.42 | 74.33 | 80.23 | 82.60 | 84.30 | 80.10 | 65.80 | 66.90 | 51.10 | 69.15 | 82 37 | 70.93 | 52 78 | 67.79 |
| | 1854 | 53 40 | 56.50 | 66 20 | 64.60 | 75.10 | 80.60 | 80.10 | 81.50 | 78.10 | 69.90 | 57.10 | 52.20 | 68 6 | 80.73 | 68.36 | 54.03 | 68.00 |
| | 1855 | 54 80 | 51.85 | 59.80 | 70.33 | 79.16 | 81.88 | 82.78 | 84.80 | 82.14 | 67.10 | 66.68 | 56.66 | 69.76 | 82.38 | 71.97 | 54.43 | 67 90 |
| | 1856 | 55.27 | 58.35 | 64.15 | 70.06 | 75.62 | 81.11 | 82.79 | 82.87 | 78 94 | 71.75 | 62 44 | 55.98 | 69.94 | 82 26 | 70 71 | 56.53 | 69.86 |
| | 1857 | 50.58 | 64.98 | 62.35 | 64.96 | 74.16 | 80.09 | 81.80 | 81.80 | 80.15 | 69.77 | 61.10 | 58.13 | 67.15 | 81.23 | 70 34 | 57.89 | 69.15 |
| | 1858 | 59.96 | 56.23 | 64.41 | 71.50 | 77.05 | 81.07 | 83 57 | 83.93 | 79.96 | 74.96 | 54.73 | 61.47 | 70 99 | 82.86 | 69.88 | 59.22 | 70.73 |
| | 1859 | 53 91 | 63.40 | 66.48 | 70.43 | 79.10 | 82.11 | 83.35 | 82.50 | 80.43 | 70 74 | 65.67 | 53.65 | 72 01 | 82 97 | 72.28 | 57.02 | 71.07 |
| | 1860 | 56.99 | 59.51 | 64.97 | 76 04 | 80.03 | 86.46 | 88.66 | 85.37 | 82.99 | 72.13 | 61.55 | 55.31 | 73.68 | 86.83 | 72.22 | 53.97 | 72.50 |
| | 1873 | 49 88 | 60.12 | 61.37 | 67.95 | 75.19 | 81.66 | 83.57 | 82 28 | 79.56 | 68 21 | 61.46 | 56.92 | 68.17 | 82 50 | 69.74 | 55 64 | 69.14 |
| | 1874 | 56.71 | 59.59 | 67.81 | 66.22 | 76.91 | 82.62 | 86.33 | 85.02 | 80.41 | 70.94 | 64.10 | 59.48 | 70.37 | 83.32 | 71.65 | 58.58 | 70.99 |
| | 1875 | 53.89 | 55 23 | 64.10 | 65.82 | 77.42 | 80.89 | 83.09 | 80.14 | 77.21 | 68.15 | 66.44 | 62.62 | 69.11 | 81.34 | 70.60 | 57.24 | 69.57 |
| | 1877 | 53.08 | 55.93 | 60.64 | 67.56 | 73.53 | 78.13 | 81.71 | 83.29 | 78.44 | 70 49 | 58.41 | 56.77 | 67.24 | 81.04 | 69.11 | 56.26 | 68.16 |
| | 1878 | 51.08 | 55.50 | 66.36 | 71.41 | 75.54 | 81.95 | 83.83 | 83.59 | 78.75 | 71.42 | 59.46 | 50.85 | 71.10 | 83.12 | 69.87 | 52.49 | 69.14 |
| Mean of 38 years | 1820 to 1878, | 56.28 | 58.03 | 64 27 | 69.41 | 75.00 | 81.35 | 83.21 | 83.14 | 79.64 | 70.27 | 62.30 | 56.43 | 69.56 | 82.53 | 70.75 | 56.91 | 69.51 |

The preceding record has been constructed from the most reliable data extant, with reference to the climatology of New Orleans: namely, the metrological records of the Military Post of New Orleans, extending over a period of 20 years, 1825, 1853; the statistics published by Dr. Barton, embracing a period of 19 years, extending from 1833 to 1853 and the manuscript of D. T. Lillie, Esq., and from reports of the Board of Health.

From the preceding record of 38 years, extending with some interruptions from 1820 to 1878, inclusive, the mean annual temperature of New Orleans is 69.51°. According to the meteorological records of the Military Post of New Orleans, extending over a period of 25 years, the mean annual temperature is given a fraction higher; namely, 69.9°; whilst according to Dr. Barton, it is much less, or 67.6°.

The statistics which I have presented in the preceding table must be regarded as the fullest and most accurate expression of the temperature of New Orleans, and we must accept the mean annual temperature as 69.51°, with a range during the period specified of 72.50° maximum to 67.61° minimum annual temperature. The mean annual temperature of New Orleans is lower than that of Havana, Cuba, 75.9°; of Matanzas, Cuba, 78.3°; Ubajay, Cuba, 73.4°; of Nassau, Bahamas, 78.7°; of Rio Janerio, South America, 73.7°; of Vera Cruz, Mexico, 77 to 79.8°; of Kingston, Jamaica, 78.7°. The isothermal line of mean annual temperature of New Orleans passes through the north of Africa, through Morocco and Barbary, skirting the northern boundary of the Great Desert of of Sahara, and crossing Egypt in a line with the Isthmus of Suez, and in the latitude of Alexandria, and passes on through the northern portion of Arabia, the middle of Persia, and Afghanistan, the north of India and the south of China. By its climatic relations, and especially by its mean annual temperature, New Orleans is connected with those portions of Africa and Asia, from whence have sprung in past ages some of the greatest plagues which have desolated the human race. The isothermal 70°, for the year, which is very nearly that of New Orleans, is nearly on the parallel of 30°—rising above it at the Gulf of California, and falling below in the interior and in Texas, it follows the northern coast of the Gulf of Mexico, and crosses the Atlantic and Africa nearly in a straight line. It bends north at the head of the Red Sea, and across the desert until it strikes the Himalayas, from which point it turns southward and is below the Tropic of Cancer. Off the west coast of California it falls nearly as low—its general course being in a right line along the the 30th parallel, from which it is abruptly turned southward in approaching Canton from the west, and in leaving the California coast. The last curvature is due to the now well known

mass of cold water off that coast, and at the east of Asia it is apparently a merely continental effect, which would have been felt here if the continent had occupied the place of the Gulf of Mexico.

It is remarkable that the average position of this line is farther north in the new than in the old world.

The average temperature of the spring in New Orleans is 69.56°, and very nearly 12½° below that of the winter, 56.91°. The average spring and winter temperatures of those places in which yellow fever is said by the contagionists and quarantinists to be indigenous are as follows: Havana, Cuba, spring 75.7°, winter 68.4°; Kingston, Jamaica, spring 78.1°, winter 76.1°; Matanzas, Cuba, spring 78.9° winter 73.4°; Nassau, spring 77.7°, winter 70.7°; Rio Janeiro, spring 74.7°, winter 79.1°; Vera Cruz, Mexico, spring 77.8°–78°, winter 77°–79.8°. The mean summer temperature of New Orleans is 82.53°; of Havana 84.2°; of Vera Cruz 81.5°. The mean autumnal temperature of New Orleans is 70.75°; of Havana 75.5°; of Vera Cruz 77.2°–78.7°.

The most marked difference between the climate of New Orleans and that of Havana, Cuba, is that the winter is colder by 11°, F., and the spring colder by 6°, F., in the former. The average temperature of the summer in New Orleans, is 1° higher than that of Vera Cruz, and 1.7° cooler than that of Havana: the average autumnal temperature of New Orleans is 4.8° lower than that of Havana, and between 7° and 8° lower than that of Vera Cruz. It is evident, therefore, from these results, that the differences of climate between New Orleans and Havana are not so great as to warrant the dogmatic and oft repeated assertion, that yellow fever cannot originate *de novo* in New Orleans; neither do they sustain the idle lucubrations about the so-called hibernation of the yellow fever germ.

If the curve of the monthly temperature of New Orleans be projected upon a chart, it will be found to rise in January, from a mean temperature of 56.28°, to 58.28° in February, 64.27° in March, 69.41° in April, 75° in May, 81.35° in June, 83.21° in July, and 83.14° in August; the maximum temperature of June and July then descends to 79.64° in September, 70.27° in October, 62.30° in November, and 56.43° in December. The rise and progress of the temperature during the summer corresponds to the rise and progress of yellow fever in New Orleans.

| Year. | Jan. | | Feb. | | March. | | April. | | May. | | June. | | July. | | Aug't. | | Sept. | | Oct. | | Nov. | | Dec. | | Year. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. |
| 1817 | | | | | | | | | | | 92 | | 92 | | 94 | | 85 | | | | | | | | 94 | |
| 1819 | 70 | 41 | 74 | 48 | 79 | 45 | 82 | 50 | 84 | 71 | 89 | 74 | 88 | 73 | 85 | 76 | 86 | 69 | 83 | 44 | 77 | 53 | 70 | 37 | 89 | 37 |
| 1826 | 77 | 25 | 84 | 42 | 82 | 52 | 88 | 52 | 92 | 62 | 93 | 75 | 96 | 78 | 94 | 76 | 90 | 64 | 80 | 61 | 83 | 48 | 72 | 34 | 96 | 25 |
| 1838 | 77 | 29 | 80 | 26 | 90 | 40 | 91 | 50 | 91 | 52 | 98 | 64 | 98 | 72 | 90 | 76 | 91 | 63 | 87 | 45 | 84 | 34 | 80 | 22 | 98 | 22 |
| 1839 | 74 | 28 | 76 | 35 | 79 | 32 | 88 | 50 | 96 | 64 | 96 | 69 | 95 | 73 | 96 | 74 | 94 | 65 | 86 | 60 | 82 | 30 | 67 | 29 | 96 | 28 |
| 1840 | 78 | 28 | 84 | 36 | 88 | 52 | 90 | 54 | 94 | 56 | 94 | 70 | 98 | 80 | 100 | 74 | 93 | 64 | 90 | 42 | 80 | 32 | 78 | 32 | 98 | 28 |
| 1841 | 76 | 29 | 74 | 29 | 80 | 50 | 91 | 53 | 90 | 60 | 94 | 72 | 100 | 80 | 90 | 76 | 90 | 62 | 86 | 40 | 84 | 30 | 80 | 36 | 100 | 29 |
| 1842 | 82 | 35 | 78 | 32 | 86 | 50 | 82 | 55 | 85 | 57 | 87 | 72 | 88 | 73 | 87 | 72 | 89 | 72 | 82 | 47 | 78 | 33 | 79 | 31 | 89 | 31 |
| 1843 | 74 | 29 | 74 | 28 | 76 | 33 | 86 | 49 | 87 | 57 | 87 | 71 | 94 | 72 | 94 | 66 | 95 | 66 | 88 | 38 | 82 | 55 | 76 | 35 | 95 | 28 |
| 1844 | 76 | 37 | 80 | 38 | 82 | 42 | 85 | 45 | 89 | 67 | 89 | 69 | 92.5 | 73 | 92.5 | 69 | 91.5 | 61 | 85.5 | 46 | 80 | 55 | 75 | 33 | 92.5 | 33 |
| 1845 | 72 | 36 | 79 | 34 | 80 | 42 | 86 | 52 | 85 | 57 | 91 | 67 | 93 | 73 | 92 | 72 | 88 | 63 | 79 | 51 | 73.5 | 30 | 69 | 25 | 93 | 25 |
| 1846 | 70 | 32.5 | 68.5 | 40 | 73 | 50 | 87 | 57 | 89.5 | 63 | 89 | 68 | 90 | 74 | 89.5 | 70 | 90.5 | 68 | 84 | 46 | 81 | 32 | 81 | 40 | 90.5 | 32 |
| 1847 | 78 | 27 | 79 | 35 | 80 | 41 | 84 | 52 | 87 | 62 | 94 | 71 | 90 | 71 | 91 | 71 | 91 | 66 | 87 | 51 | 83 | 29 | 76 | 31 | 94 | 27 |
| 1848 | 78 | 31 | 77 | 36 | 79 | 43 | 81 | 52 | 88 | 59 | 94 | 70 | 94 | 74 | 92 | 70 | 94 | 63 | 87 | 52 | 75 | 37 | 76 | 30 | 94 | 30 |
| 1849 | 76 | 37 | 77 | 35 | 88 | 41 | 85 | 42 | 92 | 65 | 92 | 70 | 92 | 73 | 92 | 70 | 94 | 63 | 87 | 52 | 75 | 37 | 76 | 30 | 94 | 30 |
| 1850 | 79 | 34 | 84 | 26 | 85 | 36 | 90 | 38 | 92 | 48 | 93 | 58 | 95 | 70 | 100 | 69 | 97 | 62 | 90 | 42 | 85 | 40 | 80 | 24 | 100 | 26 |
| 1851 | 81 | 30 | 82 | 34 | 84 | 37 | 90 | 48 | 90.5 | 54 | 94 | 71 | 94 | 76 | 95 | 76 | 92.5 | 62 | 89 | 47 | 83 | 43 | 81 | 26 | 95 | 26 |
| 1852 | 74 | 17 | 80 | 39 | 85 | 39 | 80 | 47 | 90 | 67 | 93 | 70 | 95 | 74 | 94 | 74 | 90.5 | 69 | 96 | 55 | 84 | 39 | 80 | 39 | 96 | 17 |
| 1853 | 74 | 32 | 77 | 38 | 77 | 44 | 86.5 | 48 | 91 | 58 | 92 | 73 | 93 | 71 | 94 | 72 | 92.5 | 60 | 86 | 48 | 80 | 45 | 74 | 34 | 94 | 32 |
| 1854 | 79 | 30 | 87 | 37 | 83 | 41 | 87.5 | 49 | 91 | 63 | 96 | 71 | 94 | 77 | 95 | 79 | 94 | 75 | 87 | 67 | 81 | 44 | 72 | 37 | 96 | 30 |
| 1855 | 60.4 | 50.4 | 73 | 30 | 80 | 29 | 84 | 45 | 95 | 65 | 92 | 70 | 93 | 76 | 93 | 78 | 93 | 76 | 78 | 42 | 82 | 48 | 72 | 30 | 95 | 29 |
| 1856 | 59 | 30 | 70 | 27 | 78 | 47 | 80 | 63 | 89 | 68 | 89 | 78 | 90 | 79 | 90 | 78 | 87 | 62 | 74 | 53 | 82 | 45 | 76 | 35 | 90 | 27 |
| 1857 | 68 | 28 | 78 | 42 | 78 | 43 | 79 | 47 | 85 | 58 | 88 | 73 | 88 | 74 | 87 | 78 | 87 | 70 | 79 | 57 | 80 | 39 | 78 | 43 | 88 | 28 |
| 1858 | 73 | 50 | 70 | 40 | 77 | 42 | 82 | 56 | 84 | 65 | 86 | 72 | 90 | 78 | 90 | 73 | 87 | 70 | 84 | 64 | 73 | 43 | 76 | 41 | 90 | 40 |
| 1859 | 68 | 36 | 78 | 44 | 81 | 52 | 86 | 54 | 89 | 68 | 90 | 73 | 90 | 76 | 91 | 75 | 89 | 72 | 82 | 50 | 79 | 44 | 77 | 32 | 91 | 32 |
| 1860 | 72 | 35 | 75 | 38 | 80 | 54 | 93 | 65 | 89 | 65 | 94 | 77 | 97 | 83 | 95 | 77 | 93 | 65 | 86 | 54 | 79 | 40 | 74 | 34 | 97 | 34 |
| 1861 | | | | | | | 79 | 50 | 88 | 62 | 88 | 69 | 89 | 64 | 88.5 | 71 | 86 | 52 | 83 | 54 | 76 | 43 | 78 | 34 | 89 | |
| 1862 | 77 | 38 | 77.5 | 35 | 84 | 38 | 81 | 44 | 87 | 64 | 93 | 65 | 93 | 70 | 94 | 72 | 89 | 70 | 86 | 34 | 70 | 32.5 | 76 | 33 | 94 | 32.5 |
| 1863 | 72 | 23 | 79 | 27 | 77 | 37 | 81.5 | 40 | 87 | 50 | 93 | 67 | 93.5 | 70 | 92 | 63 | 90 | 50 | 82 | 44 | 78 | 23 | 74 | 22 | 93.5 | 22 |
| 1864 | 74 | 18 | 76 | 23 | 73 | 30 | 84.5 | 44 | 88 | 53 | 91 | 63 | 93.5 | 63 | 92.5 | 74 | 90.5 | 62 | 83 | 42 | 83.5 | 24 | 79 | 21 | 93.5 | 18 |
| 1865 | 71.5 | 26 | 75 | 26.5 | 80 | 33 | 84 | 47 | | | | | | | | | | | | | | | | | | |
| 1867 | | | | | | | | | | | 90 | 70 | 92 | 70 | 92 | 79 | 87 | 75 | 85 | 52 | | | | | 92 | |
| 1869 | | | | | 87 | 36 | 90 | 46 | 85 | 55 | 91 | 65 | 92 | 71 | 93 | 70 | 89 | 56 | 82 | 40 | 79 | 38 | 70 | 31 | 93 | |
| 1870 | 72 | 31 | 75 | 31 | 81 | 31 | 78 | 43 | 92 | 52 | 91 | 62 | 92 | 68 | 92 | 70 | 89 | 62 | 82 | 47 | 82 | 31 | 76 | 16 | 92 | 16 |
| 1871 | 72 | 27 | 78 | 41 | 78 | 42 | 84 | 50 | 86 | 52 | 92 | 69 | 92 | 72 | 92 | 73 | 89 | 55 | 85 | 54 | 84 | 41 | 79 | 26 | 92 | 26 |
| 1872 | 76 | 26 | 75 | 31 | 74 | 36 | 84 | 57 | 89 | 57 | 91 | 71 | 93 | 72 | 93 | 74 | 90 | 66 | 83 | 49 | 79 | 29 | 72 | 19 | 93 | 19 |
| 1873 | 66 | 25 | 81 | 43 | 81.5 | 38 | 86 | 45.5 | 88.5 | 57 | 92 | 72.5 | 98 | 70.5 | 92.5 | 71 | 91 | 70.5 | 88 | 38 | 77 | 37.5 | 78 | 32 | 98 | 25 |
| 1874 | 77 | 32 | 77.5 | 41.5 | 84 | 50.5 | 82 | 40.5 | 92.2 | 57 | 94 | 74 | 95 | 72 | 99 | 73 | 90.5 | 63.5 | 86 | 51 | 83.5 | 39.5 | 78.5 | 42.5 | 99 | 32 |
| 1875 | 77.5 | 29 | 80 | 31 | 81 | 36.5 | 82 | 51 | 90 | 62 | 94.5 | 67 | 95 | 74 | 92 | 69 | 94 | 60 | 82 | 51.5 | 83 | 46 | 79 | 35.5 | 95 | 29 |
| 1876 | 78.5 | 38.5 | 80 | 34.5 | 81 | 34.5 | 84 | 52 | 89 | 53 | 92 | 69 | 91 | 79 | 89 | 78 | 88 | 61 | 77 | 50 | 73 | 30 | 70 | 24 | 92 | 24 |
| 1877 | 76 | 21 | 72 | 42 | 77 | 39 | 80 | 55 | 92 | 56 | 94 | 67 | 96 | 73 | 96.5 | 73 | 92 | 63 | 84 | 53 | 78 | 34 | 71 | 34 | 96.5 | 21 |
| 1878 | 82 | 21 | 72 | 29 | 89 | 42 | 87 | 41 | 90 | 55 | 93 | 66 | 95 | 70 | 94 | 68 | 90 | 57 | 87 | 44 | 80 | 35 | 67 | 23 | 95 | 23 |

The maximum temperature, 100° F., for the entire series of years 1817–1878, was attained in 1841 and 1850; in the former year about 1800 deaths were occasioned by yellow fever, and in the latter the victims numbered only 107. The next highest temperatures with the annual mortality by yellow fever, were as follows: 1874, 99°, deaths from yellow fever, 11; 1838, 98°, no epidemic; 1840, 98°, 3 deaths; 1873, 98°, 226 deaths; 1860, 97°, 15 deaths; 1877, 96.5°, 1 death; 1826, 96°, 5 deaths; 1839, 96°, 800 deaths; 1852, 96°, 456 deaths; 1843, 95°, 1000 deaths; 1855, 95°, 2615 deaths; 1875, 95°, 61 deaths; 1878, 95°, 4056 deaths; 1847, 94°, 2600 deaths; 1848, 94°, 872 deaths; 1849, 94°, 769 deaths; 1853, 94°, 7849 deaths; 1862. 94°, 2 deaths: 1863, 93.5°, 2 deaths; 1864, 93.5°, 6 deaths. Such facts indicate that the prevalence of yellow fever in New Orleans is not necessarily associated with the prevalence during the hot months of the highest degrees of heat.

The minimum temperatures were reached in the following years, with the accompanying mortality from yellow fever: 1870, 16°, F., 587 deaths; 1852, 17°, 456 deaths; 1864, 18°, 6 deaths; 1872, 19°, 39 deaths; 1877, 21°, 1 death; 1838, 22°, F., no epidemic; 1878, 23°, 4056 deaths; 1876, 24°, 42 deaths; 1826, 25°, 5 deaths; 1845, 26°, 2 deaths; 1850, 26°, 107 deaths. Such facts would seem to sustain the proposition, that extremes of cold were unfavorable to the generation of yellow fever. But a more critical examination will show, that this proposition should not be unconditionally accepted: for the effects of the extreme cold temperatures of each year should be considered in the months of January, February and March, and of the months of December, November and October of the year immediately preceding. The early supervention of cold weather and of frost without doubt, exerts a marked effect, in arresting the progress of epidemics of yellow fever, and it would also appear that an excessive degree of cold in the winter preceding, tended to remove or retard the operation of the cause or causes inducing yellow fever. It is worthy of note, that during the entire period covered by the preceding table, in almost every year, the temperature fell in New Orleans, during the winter months, to that point which insured the occurrence of frost. and the induction of that low point of temperature, which insured the arrest of the epidemic constitution necessary to the generation and propagation of yellow fever.

The connection of yellow fever with the rain fall is worthy of study; and as a scientific basis for this investigation we have consolidated from the most reliable sources the following table.

*Monthly and Annual Rain-fall in New Orleans, La., for a series of years, consolidated by* JOSEPH JONES, M.D., *expressed in inches and fractions of an inch.*

| YEAR. | Jan'ry. Inches. | Feb'ry. Inches. | March. Inches. | April. Inches. | May. Inches. | June. Inches. | July. Inches | Aug'st. Inches. | Sept'r. Inches. | Octo'r. Inches. | Nov'r. Inches. | Dec'r. Inches. | Year— Inches. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean 6 years. 1833–1838 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 57.85 |
| Mean 3 years, 1836–1838 | 4.66 | 2 25 | 2.59 | 6.21 | 2.95 | 6.10 | 6.38 | 5.72 | 5 60 | 1.37 | 3.18 | 2.87 | |
| 1839 | 8.10 | 3.40 | 2.19 | 2.10 | 2.02 | 3.11 | 9.86 | 4.80 | 0.12 | 2.40 | 3.92 | 4.40 | 46.42 |
| 1840 | 0.11 | 2.01 | 1.09 | 3.10 | 4.80 | 7.10 | 5.60 | 3·10 | 1.80 | 7.80 | 5.55 | 2.22 | 44.28 |
| 1841 | 19.50 | 5.10 | 6 90 | 5·10 | 1.70 | 3.10 | 0.89 | 3.41 | 2.87 | 2.41 | 0.11 | 9.44 | 60.53 |
| 1842 | 4.21 | 3.51 | 2.71 | 5.20 | 1.12 | 1.13 | 4.52 | 7.40 | 4.80 | 1.50 | 3.25 | 1.70 | 41.05 |
| 1843 | 4.00 | 3.80 | 5·31 | 2.67 | 0.45 | 14 57 | 6.33 | 5.11 | 5.51 | 3.49 | 1.93 | 6.02 | |
| 1844 | 4.41 | 0.73 | 3.90 | 0.53 | 3.16 | 2.75 | 9.80 | 5.21 | 1.08 | 2.18 | 7.78 | 1.35 | 38.97 |
| 1845 | 6.24 | 1.19 | 5.16 | 1.99 | 8.06 | 3.20 | 1.88 | 4.53 | 4.30 | 6.26 | 4.62 | 6.20 | |
| 1846 | 9.20 | 6.66 | 7.88 | 10.70 | 9.37 | 7.98 | 8.86 | 6.90 | 6.32 | 1.14 | 1.56 | 1.55 | |
| 1847 | 7.71 | 3.77 | 3.40 | 4.63 | 4.80 | 3.43 | 5.06 | 6.81 | 2.83 | 0.75 | 2.59 | 7.73 | 53.51 |
| 1848 | 5.42 | 1 28 | 1.97 | 3.92 | 4.75 | 9.36 | 7.79 | 8.37 | 0.80 | 2 31 | 8.83 | 1.86 | 56.66 |
| 1849 | 3 55 | 2.45 | 2.83 | 2.43 | 8.01 | 3.79 | 11.09 | 4.85 | 4.01 | 6.88 | 4.48 | 2.52 | |
| 1850 | 7.40 | 4 53 | 2.27 | 4.10 | 6 20 | 8.92 | 6.31 | 10.95 | 1.85 | 0 96 | 1.58 | 3.46 | |
| 1851 | 3.82 | 3.18 | 1.20 | 3.49 | 2.93 | 2.21 | 2 13 | 10.46 | 3.85 | 3.70 | 9.00 | 2.69 | |
| 1852 | 0.80 | 1.45 | 4.24 | 5.25 | 7.23 | 1.64 | 7.44 | 1.75 | 1.16 | 2.83 | 7.00 | 5.30 | |
| 1853 | 3.20 | 4.20 | 7.38 | 1.88 | 2.80 | 1.86 | 11.71 | 7.01 | 5.04 | 5.17 | 7.03 | 4.57 | |
| 1854 | 1.89 | 9.84 | 4.18 | 3 81 | 6.15 | 4.08 | 2.94 | 3.48 | 8.92 | 4.84 | 1.55 | 1.16 | 52.75 |
| 1855 | 0.86 | 2.06 | 0.82 | 2.00 | 1.77 | 1.75 | 7.24 | 4.12 | 4.36 | 2.10 | 5.59 | 8.23 | |
| 1856 | 8.90 | 3.68 | 3.73 | 2.85 | 2.53 | 5.79 | 8.63 | 16.12 | 3.20 | 2.29 | 4.65 | 4.75 | 67.12 |
| 1857 | 2.68 | 1.97 | 2.86 | 1.73 | 7.33 | 2.90 | 5 86 | 4.64 | 2.55 | 5.01 | 3.05 | 5.10 | 45.68 |
| 1858 | 3.71 | 4.30 | 4.71 | 2.26 | 3.45 | 4.89 | 7.72 | 7.35 | 3.67 | 4.13 | 3.20 | 3.42 | 52.81 |
| 1859 | 6.40 | 3.77 | 7.84 | 3.99 | 1.94 | 7.12 | 0.93 | 6.17 | 1.19 | 2.17 | 2.79 | 5.09 | 49.40 |
| 1860 | 0.64 | 8.61 | 0.76 | 2.42 | 1.26 | 5.07 | 1.59 | 4.50 | 1.80 | 5.66 | 4.28 | 2.74 | 39.24 |
| 1861 | ..... | ..... | ..... | 7.58 | 0.01 | 4.41 | 3.62 | 8.71 | 6.14 | 3.95 | 0.25 | 0.76 | |
| 1862 | 3.79 | 2.76 | 2.83 | 4.10 | 0.65 | 0.58 | 4.54 | 2.15 | 4.68 | 1.03 | 0.36 | 1.59 | |
| 1863 | 2.11 | 3.56 | 3.73 | 0.31 | 3.02 | 2.62 | 3.30 | 4·44 | 1.74 | 1.67 | 0.26 | 4.12 | |
| 1864 | 3.42 | 0.30 | 3.05 | 0.98 | 0.68 | 2.86 | 1.91 | 7.98 | 2.15 | 2.22 | 0.77 | 0.46 | |
| 1865 | 3.97 | 3.94 | 5.30 | 0.24 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |
| 1869 | ..... | ..... | 13.90 | 4.47 | 1.10 | 9.88 | 4.64 | 8.73 | 8.19 | 5.09 | 5.21 | 3.13 | |
| 1870 | 9.46 | 3.61 | 2.85 | 9.22 | 4.41 | 4 09 | 6.08 | 11.58 | 1-64 | 1.85 | 5.15 | 9.52 | |
| 1871 | 13.52 | 1.29 | 6.11 | 2.75 | 5 72 | 9.96 | 6 43 | 8.63 | 6.88 | 15,65 | 9.04 | 2.14 | |
| 1872 | 5.22 | 5.91 | 9.73 | 6 73 | 3.97 | 5.78 | 7.03 | 3.95 | 2.36 | 3.38 | 9.06 | 5.69 | |
| 1873 | 5.61 | 2.20 | 5.49 | 1.73 | 28.50 | 8.58 | 6.75 | 10.83 | 4.46 | 1.80 | 7.35 | 1.87 | |
| 1874 | 2.30 | 3,70 | 7.31 | 18.44 | 0 04 | 11.97 | 17.37 | 5.92 | 5.08 | .... | 1.76 | 3.57 | |
| 1875 | 9.17 | 16.22 | 13.73 | 10.44 | 3.19 | 6.22 | 8.19 | 11.32 | 8.54 | 2.26 | 6 86 | 5.72 | |
| 1876 | 5.47 | 9.33 | 11.65 | 8.20 | 8.54 | 7.19 | 5.19 | 5.55 | 0.39 | 0.10 | 2.97 | 8.29 | |
| 1877 | 8.20 | 0.85 | 5.31 | 4.51 | 1.14 | 2.30 | 7.07 | 3.27 | 16.29 | 9.62 | 6.20 | 5.95 | |
| 1878 | 5 36 | 3.50 | 4.63 | 1.51 | 6.14 | 7.12 | 5.26 | 4.90 | 2.67 | 5.07 | 7.78 | 8.59 | |

The annual rain-fall in New Orleans, during the period embraced in the table, embracing a period of 40 years, may, in round numbers, be regarded as ranging from 35 to 70 inches.

The general mean of the months may be stated thus: January 5.61, February 2.90, March 3.90. April 3.29, May 4.10, June 4.97, July 6.66, August 5.65, September 2.20, October 2.74, November 4.68, December 4.20 inches. If an average of a series of years be selected, it will be found that the heaviest

rain-fall occurs in the summer and the least in the autumn. Thus if we select the statistics of the U. S. Barracks for a period of 15 years, 1839–1853, inclusive, the rain-fall in inches was as follows: spring 11.29, summer 17.28, autumn 9.62, winter 12.71; year 50.90. The extreme quantities of rain in New Orleans, for a period of 17 years, according to the U. S. Military Register and the observations of Dr. Barton, were, January, max. 19.5, min. 0.11; February, max. 9.84, min. 0.73; March, max. 7.88, min. 0.90; April, max. 10.70, min. 0.53; May, max. 8.06, min. 0.45; June, max. 14.07, min. 1.31; July, max. 14.74, min. 0.89; August, max. 8.39, min. 1.37; September, max. 8.92, min. 0.63; October, max. 6.45, min. 0.75; November, max. 8.83, min. 0.11; December, max. 9.44, min. 0.80; maximum for year 62.64 (1853); minimum 39.96 inches (1852). The rain-fall of 1841, when yellow fever destroyed a large number of citizens was large, 60.53; it was also much above the average amount in 1847 and 1848, but it reached 67.12 inches in 1856, when yellow fever did not prevail as an epidemic. It is worthy of note that during the entire period embraced in the table, there is not a single month in any year without more or less rain-fall.

Owing to several causes, as the one just mentioned, the absence of protracted droughts, the abundant rain-fall, and the presence of large bodies of waters in the city and lakes surrounding New Orleans, the climate, as well as that of the gulf coast, comprising a large area in the Southern States, is very humid, containing a large quantity of vapor, though not in the sensible form of clouds or fogs. This condition of the atmosphere, combined with the tropical heat of summer, favors the rapid putrefaction of animal and vegetable matter, and the rapid development of low forms of animal and vegetable organisms.

Dr. Barton has accurately observed the humidity at New Orleans for many years, and the following results for 1853, when yellow fever prevailed in its most destructive form, will show nearly the general average then.

| Month. | New Orleans. | New Orleans. | St. Louis. | Greenwich. |
|---|---|---|---|---|
| | Humidity. | Weight of vapor per cubic foot, grains. | Humidity. | Humidity. |
| January | 88 | 3.85 | 68 | 85 |
| February | 84 | 4.58 | 67 | 85 |
| March | 83 | 5.38 | 61 | 80 |
| April | 83 | 6.80 | 46 | 80 |
| May | 84 | 7.60 | 66 | 75 |
| June | 81 | 9.14 | 69 | 73 |
| July | 82 | 8.80 | 70 | 77 |
| August | 87 | 9.74 | 78 | 77 |
| September | 85 | 8·57 | 80 | 74 |
| October | 80 | 6.05 | 63 | 83 |
| November | 84 | 6.06 | 71 | 86 |
| December | 82 | 4.01 | 68 | 84 |
| Year | 86 | 6.72 | 67 | 80 |

This shows a high measure of humidity, for the whole year, at New Orleans, and an excess of vapor in the air in the warmer months, proportional to the excess of mortality for these months. At St. Louis the humidity is greatest in summer, the months of greatest mortality, whilst at London the percentage is much less at the same part of the year.

From the preceding observations upon the history of yellow fever, during the present century, in New Orleans, and especially during the American Domination, during which time there has been a rapid growth of population and increase of commerce and the accumulation of more exact data, bearing on the mortality and climatology of the city, the following conclusions may be drawn:

1st. The increase in the number and extent of the epidemics of yellow fever in New Orleans, has been intimately associated with the accumulation of unacclimated human beings in the city, and with the increase of commerce and the consequent crowding, and the accumulation of filth and crowd poison in ships and in badly constructed and badly drained and policed habitations.

2d. By its geographical position, by its peculiar topography, situated upon a low alluvial, badly drained, swampy plain, surrounded by large bodies of water; by the exposure of an extended river bank, putrid stagnant canals and marshes; by defective drainage, sewage and police; and by its hot and moist climate, New Orleans has been peculiarly exposed to the ravages of yellow fever.

3d. No such marked differences exist between the climate of New Orleans and that of Havana and Vera Cruz, as would warrant the assertion that yellow fever is always endemic in the latter two cities, and that at the same time it cannot originate *de novo* in the former. Whilst it is the wish of every true patriot to claim all excellencies of position and health for the land of his choice and love, at the same time the future advancement of sanitary science and the highest interest of humanity demand that all causes of disease, whether existing in the soil or climate, should be honestly stated and fully weighed. In sanitary science as well as in disease and the science of medicine, the proper remedies and preventatives can only be fully appreciated by a comprehension of all the dangers and difficulties.

4th. Those who hold to the view that yellow fever never originates in New Orleans, but is *always imported*, must at least be forced by the past history of the great epidemics of this city, to admit that its climate and situation are such as to admit of the easy lodgement and rapid propagation of the seeds of this disease.

5th. Every system which would look exclusively to the defence of New Orleans from pestilence by quarantine, is vicious, and destructive at once to commerce and the best interest of the city, in that it leads to the neglect of those sanitary measures

which will best promote the removal and eradication of the causes of disease, and the removal of those physical conditions which promote the rapid spread of destructive epidemics.

6th. It may be possible to institute at once a just and enlightened system of quarantine, and hygienic rules among the agents, and in the vehicles of commerce, and an enlarged and progressive system of sanitation, embracing thorough drainage, abundant water supply, rapid and efficient removal of all excrementitious matter and the proper elevation and construction of well ventilated and thoroughly policed houses.

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## GENERAL OUTLINE OF THE SYMPTOMS AND PATHOLOGICAL ANATOMY OF YELLOW AND MALARIAL FEVERS.

### Yellow Fever.

### YELLOW FEVER SYMPTOMS AND PATHOLOGY.

Definition—A pestilential fever of continuous and specific type, originally developed in tropical and insular America; confined to definite geographical limits and dependent in its origin and spread upon definite degrees of temperature, and capable of transportation and propagation in ships and in towns and cities, in those portions of North and South America, which lie between 45° N. lat. and 35° S. lat.; the disease has been limited chiefly to the coast of tropical Africa, rather from the number and position of the commercial towns, than from any climatic causes adverse to its propagation elsewhere; it has been imported from the Antilles and from the shores of the Gulf of Mexico and from tropical America, far in the interior of the Valley of the Mississippi, from New Orleans to St. Louis and along the Atlantic coast, from St. Augustine to Portland, Maine, and even across the Atlantic ocean to Cadiz, Carthagena, Barcelona, Gibraltar, Lisbon, St. Nazarre to Plymouth and Southampton, England. It presents two well-defined stages: the first characterized by intense pain in the head and back, injected eyes, rapid circulation, elevated temperature, which may extend from 24 to 160 hours, according to the severity of the disease: the second characterized by depression of the nervous and muscular forces, and of the general and capillary circulation, capillary congestion,

### Malarial Fever.

### MALARIAL FEVER SYMPTOMS AND PATHOLOGY.

The general division of malarial or paroxysmal fevers into three types, namely intermittent, remittent and pernicious or congestive fever, admits of several subdivisions.

Thus the forms of malignant intermittent are numerous but all are attended with congestion of one or more vital organs, which may endanger the life of the patient, and which may pass into actual inflammation attended with effusion of plastic lymph, serum or blood. In many cases in which no structural alterations have ensued during the congestive stage, there comes on at the conclusion of the paroxysm, a perfect intermission of all the violent symptoms. The sudden disappearance of the most alarming symptoms, may lead to a false prognosis, and prevent the institution of energetic measures. It is well known that in the malarious regions of the Southern and Western States, one of these violent paroxysms, whenever occuring, either at the onset of the disease, or during the progress of an ordinary mild intermittent, is the harbinger of others still more violent. If unheeded the disease may prove fatal, at the third, fourth or fifth paroxysm.

The nature and effect of the malignant paroxysm will depend upon various causes as the state of the constitution of the patients, peculiar idiosyncracies, pre-existing diseases, the effects of diet and occupation, the composition of the blood, and the organ or organs chiefly involved.

YELLOW FEVER.

slow and intermittent pulse, jaundice, urinary suppression, passive hemorrhages from the stomach and bowels, nares, tongue, gums, uterus, vagina, gall bladder and anus, and in extreme cases from the eyes, ears and skin; black vomit; convulsions, delirium and coma. In its origin and propagation, it is not dependent on those conditions and causes which generate malarial paroxysmal fever, from which it differs essentially in symptoms and pathology. One of the prominent symptoms of the first stage, is the rapid increase of the pulse within the first few hours of the febrile excitement, and the progressive diminution of the beats of the heart, even whilst the temperature progessively rises: and in like manner the slow and feeble action of the heart constitutes a prominent and striking symptom of the second stage. Yellow fever in common, with such contagious diseases as small-pox, measles and scarlet fever, occurs as a general rule but once during life, and may be propagated by contagion: it differs, however, from the exanthematous disease, in that it has never been known to propagate beyond 48° North latitude, nor below a temperature of 70° F.

I will now briefly present the general conclusions as to the nature of yellow fever which I have drawn from my original investigations during the past twenty-three years. During this period I have at various times, and in different journals, published cases sustaining the various conclusions, and I have also in my possession, in manuscript, the details of a large number of careful chemical and microscopical investigations, and numerous cases illustrating the symptoms and pathological anatomy of malarial and yellow fever. I hope to present the most important of these researches and cases, as well as a minute historical account of yellow fever and other fevers, in the second volume of my Medical and Surgical Memoirs, in that division of the work which relates more especially to the natural history and treatment of fevers.

MALARIAL FEVER.

If the cerebro-spinal system is chiefly affected, the paroxysm may be characterized by delirium, coma, convulsion, and tetanic spasms, hence some writers have distinguished the *comatose*, the *delirious*, the *convulsive* and the *tetanic* varieties of the malignant intermittent.

In many cases, in which the whole force of the disease appears to fall upon the cerebro-spinal system, these symptoms indicating serious disturbances of the functions of animal life, as disorder of the mind, coma, apoplexy and paralysis catelepsy and various involentary spasmodic movements, may disappear entirely as the paroxysm abates, not even a trace of headache being left during the intermission: in some cases however effusion may take place into the ventricles, or within and around the cerobro-spinal system, and lead to the establishment of permanent coma, with dilatation of the pupils general paralysis and death. In some cases the effusion consists chiefly of serum; and in others of blood with all the symptoms of hæmaplegia, paraplegia, apoplexy, and paralysis. A true inflammation of some portion of the cerebro-spinal substance may result from the congestion induced during the malignant paroxysm. Recovery is possible from such states, but convalescence is often tedious, and accompanied with paralysis of one or more sets of voluntary muscles. In many cases of malarial coma, I have observed the temperature to be elevated to a degree varying from 102° to 106° F., and such elevation may be attended either with a hot dry skin, or with a surface bathed in a hot profuse perspiration. The action of the malarial poison, is without doubt one of the causes of fatal and sudden apoplexy. It is probable that the result during the paroxysm is largely determined by preceding alterations of the arteries of the brain, and spinal cord, such as fatty and calcareous degeneration.

If the lungs or the pleura be primarily and chiefly involved, difficulty of breathing, syncope, capillary

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## GENERAL CONCLUSIONS AS TO THE NATURE OF YELLOW FEVER; AS DRAWN FROM ORIGINAL INVESTIGATIONS.

I. YELLOW FEVER is a continued pestilential fever, presenting two well-defined stages: the first characterized by active chemical change in the blood and organs, attended with elevation of temperature and aberration of nervous action, which may constitute the entire malady, and prove fatal in a manner similar to the infectious form of small-pox; and the other, a stage of depression, induced both by the sedative action of the febrile poison, and by profound changes excited in the blood, and in certain organs, viz., the heart, liver, and kidneys, and by the direct sedative and poisonous action of the excrementitious matter retained in the blood, in consequence of the failure, arrest, or perversion of the functions of the liver and kidneys, and by the arrest or perversion of the digestive function, in consequence of the action of the yellow fever poison, in causing perverted nervous action, capillary congestion, and active desquamation of the secretory cells of the stomach, and in consequence of the elimination by the gastric mucous membrane of certain constituents of blood and urine, viz., urea and carbonate of ammonia.

The various manifestations—as the intense capillary congestion, depression of the action of the heart, delirium, coma, convulsions, vomiting, headache, urinary suppression, uræmic poisoning, jaundice, and biliary poisoning—may all be referred to the action of the poison producing the disease, and should not form the bases for the erection of distinct types of the disease.

The action of the yellow fever poison is the same in all cases, whether mild or severe; The progress and termination of the case, as well as the manifestation of the various symptoms, depending upon the extent of the action of the poison, the condition of the system at the time of its introduction, the peculiarities of the constitution, and the supervention of other diseased states.

obstruction, and excruciating pains in the pleura, lungs and diaphragm may characterize the paroxysm. In like manner these alarming and distressing symptoms may vanish, after the disappearance of the paroxysm, or structural alterations characterized chiefly by serous effusion into the air cells, bronchial tubes, and pleural cavities, may ensue, and either destroy the patient suddenly, or lead to painful and protracted pneumonitis and pleuritis. In some cases the effusion into the air cells, consists chiefly of blood, and such pulmonic hæmorrhage must be regarded as similar, to the hæmorrhages from the stomach, small intestines and large intestines, which characterize certain forms of malignant intermittent fever.

In a third form, the heart appears to be chiefly affected, either directly or through the cerebro spinal and sympathetic system. This, the so-called cardialgic variety, is marked by excruciating pain at the epigastrium, either continuous or intermittent, intense suffering, great anxiety of countenance, vomiting and sometimes general spasm of the muscles.

In a fourth form, the abdominal viscera, the peritoneum, the stomach, the small intestines, the large intestines, the liver and the kidneys, may one and all be involved, giving rise to the so-called, peritonitic, gastric, choleraic, dysenteric, hepatic and nephritic forms of malignant intermittent. The tenderness of the peritoneum, the profuse vomitings of biliary matters, and the choleraic and dysenteric and bilious discharges, may one and all disappear during the intermission.

In a fifth form known as algid fever, the cold stage is unusually protracted, there is great oppression at the chest and abdomen, restlessness, and prostration of nervous and muscular power. The attempt at the formation of the hot stage proves abortive, the skin becomes cold, pale and shrunken on the extremities, and covered with a cold clammy prespiration, while on the contrary the central portion of the body and the internal organs are hot. In some cases of algid fever, I have observed the temperature of the extremities, to be 80°, whilst that of the trunk

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The action of the yellow fever poison is definite, and the disease is characterized by definite manifestations. Yellow fever is a self-limited disease.

II. The changes of the blood appear to be continuous from the time of the introduction of the poison to the fatal termination; the intensity of the changes being increased, and their character being modified, as the disease advances, not only by the direct action, upon the constituents of the blood, of the poison, but also by the addition of certain noxious substances, as bile, urea, carbonate of ammonia, sulphates, phosphates, and extractive matters, in consequence of the profound lesions induced in the liver and kidneys.

Certain constituents of the blood, as the albumen and fibrine, are not only altered physically and chemically in the early stages of yellow fever, but, as the disease advances, from the causes just specified, certain excrementitious matters, which in a state of health are continuously eliminated, accumulate in the circulating fluid, and by their direct action upon the elements of the blood, and upon the nervous system, and by their disturbing actions upon the processes of nutrition and digestion, still further alter the physical and chemical, and vital properties of this fluid.

III. The maximum elevation of temperature is rapidly attained upon the first and second days of the disease, varying, according to the severity of the attack, from 102° to 110° Fahr., in the axilla, and, as a general rule, from the third to the fifth day, steadily falling and sinking down to the normal standard, and even below; in some fatal cases it rises again toward the end, rarely, however, reaching or exceeding 106° Fahr., and only in certain rare instances attaining the high degree of temperature characteristic of the stage of active febrile excitement.

In the preceding tables (see History of Epidemic of 1878 by author, published in N. O. M. and S. J.) we have recorded (case 94) a sudden rise upon the 5th day from 101.7° to 111°; (case 96) 106.8° on 4th day; (case 97) 106.5° on 6th day; (case 105)

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has reached 104° F., and higher. The patient complains of intense thirst, and when water is drank it is frequently rejected by vomiting, the pulse is small, frequent and almost imperceptible at the wrist, the heart beats in a tumultous irregular manner, giving a thumping sound to the ear, the number of beats to the minute sometimes reaching 180; the respiration is irregular, often panting, and numbering 40 and over to the minute; there is great restlessness, jactitation, impatience of bed covering, with continuous complaints of oppressive heat, not only at the chest and abdomen, but even on the cold extremeties, so that the patient refuses to have them covered.

The intellect is generally undisturbed and the expression of the countenance may be quiet, even when the pulse cannot be felt, and when the disorder of the circulation and temperature becomes so extreme that the heat of the trunk is reduced, and even the tongue and mouth become cold. This irregularity continues through the whole period of the paroxysm, and it is only at the end of it in favorable cases that, the temperature and circulation are partially restored.

In algid fever, we have conjestion of the internal organs, prostration of the nervous and muscular forces and marked disturbances of the circulation and calorification. As the circulation and calorification depend mostly upon the cerebro-spinal and sympathetic nervous systems, as well as upon the physical and chemical changes of the blood and organs, the algid state must be referred at least to lesions of certain ganglionic cells or tracts of the cerebro-spinal and sympathetic nervous systems; and whilst similiar phenomena, but less in degree and duration, are manifested in every true malarial chill; it is not entirely correct to regard the algid state as simply a *prolonged chill*, for in the algid state, the chill is followed by imperfect reaction, and the elevated temperature of true chill, is rarely reached in the central organs, whilst there may be an actual diminution of heat.

When from any cause, as bad diet, excessive exposure to cold and wet, the continuous use of salt meat, or the prolonged action of the malarial

105° on 4th day; (case 122) 107.2° on 9th day; (case 133) 107° on 3rd day; (case 146) 109° on 6th day; (case 154) 111.1° on 9th day; (case 168) 108.2° on 9th day. The supervention of an inflammatory disease, or the occurrence of an abcess, or the access of paroxysmal malarial fever, may in like manner cause a progressive elevation of temperature, with slight evening exacerbations. The pulse at the commencement of the attack is often rapid and full; the increase in the frequency of the pulse does not, however, as a general rule, continue to correspond with the elevations and oscillations of temperature, as in many other febrile diseases; and in many cases of yellow fever the remarkable phenomenon is witnessed of the pulse progressively decreasing in frequency, and even descending below the normal standard, while the temperature is maintained at an elevated degree; and, on the other hand, the pulse often increases in frequency, but diminishes in force near the fatal issue; the occurrence of copious hemorrhage from the stomach and bowels may be attended with sudden depression of temperature, and increase in frequency, but diminution in the force and fullness of the pulse.

The cause of the rapid rise and declension of the temperature in yellow fever must be sought chiefly in the changes induced in the blood and in the organs upon which the circulation and integrity of the blood depend; neither the rapid rise nor the sudden declension of the temperature can be referred wholly to the effects of the yellow-fever poison upon the nervous system.

IV. The fever of the *first state* of yellow fever, like *fever in general*, however caused, consists essentially in elevation of temperature, arising from increased chemical change in the blood and tissues, and is attended with changes in the physical and chemical constituents of the blood, and aberrated nervous action.

As long as the skin, kidneys, lungs, and gastro-intestinal canal, perform their functions, this stage is characterized, as in other fevers, by an increase in the amount of solids excreted. But this increased elimination of the products of chemical change is not, in yellow fever, a consequence of the retention of the poison, the constitution of the blood is altered, hæmorrhages take place during the congestive stage of malignant intermittent fever, we may have a sixth variety, which has been indicated as *hæmorrhagic malarial fever*.

Without doubt, in this sixth form of malignant intermittent, hæmorrhages from various organs as the stomach, lungs, kidneys and bowels, are directly due to the prolonged and potent action of the malarial poison upon the fibrin and colored corpuscles of the blood, as well as to the various alterations in the spleen and liver, characteristic of all the forms of malarial fever.

The hæmorrhagic form of malarial fever, may be attended with many of the prominent symptoms of the preceding varieties, as obstinate vomiting of biliary (grass green) acrid matters, intense thirst, restlessness, feeble rapid pulse, oscillations of temperature, oppression of breathing, coma, convulsions, and apoplexy.

In many cases of malarial hæmaturia, after the supervention of jaundice the pulse becomes slow falling even below the standard of health, even when the temperature of the trunk may be elevated to from 101° to 104° F. In this respect as well as in the great irritation of the gastric mucous membrane accompanied with incessant vomiting, the hæmorrhagic form of malarial resembles yellow fever. The latter disease however, differs from the former in the character of the vomited matters. Whilst in the first stages of yellow fever the vomited matters may consist of mucous and bile, in the latter stages the black vomit is essentially altered blood. In malarial hæmaturia the dark and in some cases black vomit consists almost always of dark greenish black biliary matters, and rarely contains blood. The urine also differs essentially in the two diseases; in grave cases of yellow fever, the urine contains albumen and yellow granular casts and detached cells of the tubular uriniferi. In well marked cases of yellow fever, albumen may appear as early as the first day of the disease, but most generally it appears upon the second, third or fourth day. Blood may be present in the urine of yellow fever, but it is rarely a constituent; and even when present

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stant concomitant of the increased temperature.

Not only are large quantities of the products of oxidation formed during the hot stages of yellow fever, but, as we have shown, by numerous analyses of the blood, black-vomit, urine, brain, heart, liver, spleen, and kidneys, in this disease, they are altered to a certain extent from their characteristic state of health; the albumen of the blood, under the action of the poison, being transformed into nitrogenous and non-nitrogenous compounds, a portion of which, as the fatty matter, and altered fibrine, being arrested or accumulated in certain organs, as the heart, liver, and kidneys.

The peculiar phenomena of yellow fever, like those of acute phosphorous-poisoning, are due to the nature of the specific poison, and the character of these changes, which it is capable of exciting *primarily in the blood*, and secondarily in the nervous and vascular systems, and in the nutrition of the various organs.

Neither the rapid rise nor the sudden declension of the temperature in yellow fever is necessarily referable solely to the effects of the poison upon the nervous system; because, in the first place, the changes of the blood are among the first manifestations of diseased action, and the progress and termination of each case are largely dependent upon the extent and character of the changes of the blood, and the degree of the elevation of the temperature; and, in the second place, the sudden fall of the temperature during the succeeding stage of calm may be referred to the peculiarity of the self-limited chemical changes excited by the poison, and to the structural alterations induced in the muscular tissue of the heart, and in the liver and kidneys, and the sedative action of the bile, urea, and other excrementitious products retained in the blood, upon the nervous system; and finally, in the third place, the changes of the blood and of the heart, liver, and kidneys, are of a definite physical and chemical nature, and could never be induced by a mere exaltation or depression of nervous action, and must be referred to the introduction and action of some agent or material related in

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the granular casts of the tubuli uriniferi present a yellow color. In malarial hæmaturia the urine contains albumen, but this constituent of the blood is invariably associated with blood corpuscles and hæmatin. The casts of the tubuli uriniferi in the urine of malarial hæmaturia, present a red or reddish brown color.

Suppression of urine in yellow fever appears to be due to the blocking up of the tubuli uriniferi with granular and oleagenous matter and detached cells, the symptoms in malarial hæmaturia appear to be due not merely to congestion of the kidney, but to the filling of the urinary tubes with coagulated blood.

The microscopial examination of the blood also reveals marked differences in the two diseases; in yellow fever the colored blood corpuscles frequently assume a crenated appearance, and in uncomplicated cases there is no accumulation of pigment particles and pigment cells, and the dark cells of an algæ, resembling enlarged colorless corpuscles filled with spores of a dark brownish red color.

In malarial hæmaturia, it is rarely the case that the colored corpuscles present any other than the normal form of biconcave discs; whilst pigment particles, dark granular masses, and cells of a dark reddish brown hue, some of which are similar in all respects to certain palmellæ, are often present in considerable numbers.

In malarial hæmaturia, after death, the intestines give the reaction of bile throughout their entire extent; in yellow fever we thus obtain no evidence of the presence of bile.

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## CHANGES OF THE BLOOD IN MALARIAL FEVER.

The malarial poison is capable of altering the constitution of the solids and fluids and of modifying and altering the type, and progress and effects of various diseases, even when no symptoms of aberrated, physical, chemical, and nervous actions have been manifested sufficient to arrest the attention of the patient.

The *colored blood-corpuscles* are diminished during malarial fever; the extent and rapidity of the diminution of the colored corpuscles corres-

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a definite manner, in its constitutional and physical properties, to the fluids and solids in which it induces these profound physical and chemical changes.

Without doubt, the action of the yellow fever poison upon the nervous system may be of the most direct and important character; but well established facts do not justify us in locating the origin of the disease wholly in the action of the poison upon the nervous system; and, in fact, the earliest sensible manifestation of disordered nervous action, as evidenced by uneasiness, loss of appetite, and chilly sensations, may be entirely secondary to the changes in the blood, by which all parts of the nervous system are surrounded and supplied.

V. While many of the most striking phenomena of yellow fever, as chills and fever, and collapse, must necessarily be attended with disordered vascular innervation, at the same time we must look to the *blood* as the *seat* of the operations of the fever poison; and, as the nutrition of every organ and tissue depends upon the proper constitution of this fluid, its alterations must affect the entire organism, and the true commencement of yellow fever is in the alterations of the relations between the blood and tissues.

The nervous system, both cerebro-spinal and sympathetic, suffers at first in common with the entire system; but as the most important offices are performed by the nervous system which relates the mind to the various parts of the body, and to the exterior world, and also regulates the actions of the circulatory and respiratory systems, and coördinates the actions of the component members of the system, in all the phenomena which succeed the *invasion of fever* the *blood and nervous system* become *joint factors*.

VI. During the active stages of yellow fever, profound changes take place in the organs and tissues, especially in the kidneys, heart, and liver; oil and granular albuminoid or fibroid matter transude through the capillaries and fill up the cells and excretory ducts, and arrest the function of certain organs. The liver of yellow fever does not present the soft, friable condition char-

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pond to the severity and extent of the disease. The fixed saline constituents of the colored blood-corpuscles are often diminished in malarial fever.

The colored blood-corpuscles are destroyed both in the liver and spleen. The colored blood-corpuscles are more uniformly and rapidly destroyed in severe cases of malarial fever, than in any other acute disease, with the exception perhaps of pyæmia.

In the severe forms of malarial fever the serum presents a golden yellow color. I have shown by numerous analyses that this color in the various forms of malarial fever, and even in the so-called Malarial Hæmaturia, is due to the presence of the coloring matter of the bile, and *not as has been erroneously stated upon superficial observations to the escape of the hæmatin of the colored blood-corpuscles.*

The fibrin is diminished greatly in severe cases of malarial fever; the diminution of this element of the blood is characteristic, not only of malarial fever, but of all the fevers; while its increase on the other hand is characteristic of the phlegmasiæ. As a general rule, the diminution of the fibrin in malarial fever as in the pyrexiæ generally corresponds with the severity of the disease, provided there be no inflammatory complication. The diminution and alteration of the physical properties of the fibrin in malarial fever to any great extent, was always accompanied by congestion of the spleen, liver and brain, and serious cerebral disturbances. The fibrin is not only diminished in malarial fever, but it is altered in its properties, and in its relation to the other elements of the blood, and to the blood-vessels, *and in severe cases, heart clots, (fibrinous concretions) are frequently formed before death.*

The albumen is diminished during the active stages, but such diminution is not due to any loss of this constituent of the blood in the urine. As a general rule, albumen is absent from the urine in malarial fever, and when present, as in malarial hæmaturia, it is accompanied with blood corpuscles, and with casts of the tubuli uriniferi containing colored blood-corpuscles.

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acteristic of true fatty degeneration. The jaundice resulting from the suppression or alteration of the excretory function of the liver would appear to be due to the same causes which induce the suppression of the urine, viz., to the deposits of oil and fibrinous or albuminous matter in the excretory structures of the kidney and liver.

We do not mean to say that, in the case of the liver, its secretion ceases, or is even in many cases diminished; on the contrary, it may even be increased, especially in the stage of active febrile excitement; but, from the cause indicated, obstruction takes place in the biliary tubes, and there is a rapid absorption of the bile directly into the blood-vessel system, and in this manner the delivery of the bile into the intestinal canal is impaired and sometimes arrested.

The heart in yellow fever appears to be as fully permeated with oil as the liver: in the latter organ, however, a large amount of the oil is inclosed within the cells; in the former, in addition to the deposits of oil, there is also granular degeneration of the muscular structures.

VII. While yellow fever is characterized in common with several other diseased states by an irritation of the gastric mucous membrane, the peculiar nature of the vomited matters does not rest entirely upon the congestion and irritation of the mucous membrane of the stomach, but is influenced to a greater or less extent by the changes of the blood, liver, kidneys, and nervous system.

The vomiting in yellow fever, may, to a certain extent, be regarded as salutary, and as an effort for the elimination of certain excrementitious materials from the blood. In some cases, the first effect of the black-vomit may seem to be salutary; the tongue improves in appearance, the febrile heat abates, and, if it were not for other profound changes in the blood, liver, and kidneys, lying back, as it were, of this almost universally fatal symptom, beneficial results of the most important character might flow from the relief afforded by the removal of a certain amount of excrementitious matter, as urea, and ammonia, and bile, from the blood.

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The results of my microscopical investigations upon the blood of malarial fever, pursued during the past twenty-three years, may be thus formulated.

1st. The malarial poison produces more rapid destruction of the colored blood corpuscles than any other known febrile agent.

2d. The destruction of the colored corpuscles takes place chiefly in the spleen and liver.

3d. The black pigment resulting from this hæmatin of the blood corpuscles, is frequently observed in the blood as it circulates in the vessels and capillaries in masses of various sizes, and in the form of cellular elements.

4th. In the malarial blood we observe frequently black pigment or melanæmic corpuscles, varying from the one ten-thousandth to the one-thousandth of an inch and even less in diameter; conglomerations of these melanæmic particles, in masses of various sizes; colorless corpuscles or leucocytes which contained granular masses of black pigment; pigment cells containing ovoid bodies resembling sporules, and in all respects similar to the brownish red palmellæ obtained by passing the air of malarial regions through melting ice. Many of the particles of the melanæmic pigment are spherical, others irregular and angular, some entirely free, others incased in a hyaline mass, others incorporated with cellular elements which are more or less related to the white corpuscles of the blood and to certain forms of algæ.

5th. The black pigment particles indicate the destruction or alteration of the blood corpuscles, and the escape of the hæmatin of the red globules.

6th. The black pigment is deposited in the capillaries of various organs and tissues, as those of the liver, medulla of the bone, brain and subcutaneous tissue.

7th. The peculiar sallow, greenish-yellow and bronzed hue, which characterizes those who have been for a length of time subjected to the prolonged action of the malarial poison, or to its powerful action in pernicious remittent fever, and in malarial hæmaturia, is due not merely to hepatic and splenic deran-

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Black vomit is to a certain extent an *excrementitious* product, containing *urea and carbonate of ammonia*, in addition to altered blood-corpuscles, epithelial cells, broken capillaries, mucus, various matters received into the stomach, as food and medicine, serous exudations, and acetates, lactates, phosphates, and chlorides.

Black-vomit in yellow fever is due to several causes, as—

1. To the direct irritation and structural alteration of the gastric mucous membrane by the poison—the active agent which probably is first received into the blood, and acts in this manner or through this medium upon the gastric mucous membrane, for we find contemporaneous changes taking place in the heart, liver, and kidneys; and these changes would most probably *succeed* the gastric irritation, if the poison was received in food or drink primarily by the stomach.

2. To the structural alterations of the blood, and especially to the marked diminution of the fibrinous element which appears to sink to a lower figure than in any other known disease.

3. To suppression of the action of the kidneys, and the retention in the blood of urea and other excrementitious products, and the elimination of urea as carbonate of ammonia by the gastro-intestinal mucous membrane.

4. To the direct irritant action of the ammonia and excrementitious materials, eliminated vicariously, upon the mucous membrane of the stomach and intestines.

5. To the irritant and nauseating effects of the bile in the blood. The bile retained in the blood, without doubt, produces its characteristic effects upon the nerves supplying the stomach, inducing nausea and vomiting.

6. To the degeneration of the cells of the gastric mucous membrane, attended with or characterized by the deposit of granular fibroid or albuminoid matter and oil-globules in the secretory cells, and in the walls of the smaller blood-vessels and capillaries.

7. To the capillary congestion of the gastro-intestinal mucous membrane, similar in all respects to the intense capillary congestion which

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gement, but also to the deposit of pigment particles in the subcutaneous capillaries.

8th. During the epidemic yellow fever of 1878, in New Orleans, I endeavored by the condensation of the organic and organized and inorganic and particulate matters of the air in various portions of the city to determine whether the living particles found in the air, differed in accordance with the locality whether malarious or non-malarious. After a minute examination of the solid organic organized, living inorganic and inanimate particles of the air in residences in which yellow fever was prevailing, it was observed:

*a.* In the well paved and well drained non-malarious portions of New Orleans, the solid matters of the air examined not only during the prevalence of the yellow fever, but also at various intervals, during a period of six to eight months, I discovered no form which could be referred to such microscopical plants, as the chloro-coccum, vulgare, protococcus, viridis, palmella, cruenta, coccochloris, brebinonii and other confervoidæ, or unicellular algæ capable of producing chlorophyl. Certain granular cells observed in the blood of malarial fever, resemble most nearly the resting spore of bulbochæte intermedia, and the granular cells of palmella cruenta; but no such cells were observed in the atmosphere of the houses situated in well paved and well drained sections of the city.

The forms of the *non-malarial*, sick-rooms (rooms containing yellow fever patients) were referable to those most nearly connected with putrefaction and fermentation, as the bacteria and torulæ, penicillus and micrococci and cryptococcæ. The absence of any of the known forms of algæ in the air of yellow fever, collected in the non-malarious, well drained and well paved portions of the city of New Orleans, is important, in that this class of plants is thus excluded from the consideration of the question relating to the orgin and causation of yellow fever.

*b.* The water obtained by passing the air through ice and melting ice and ice cold water, was preserved, and portions added to solutions of sugar. The water from the rooms

characterizes all the tissues in this disease, in consequence of the physical and chemical alterations of the blood, and of the morbific action of the poison and its products upon the vaso-motor system of nerves.

Black-vomit, therefore, is an *effect* or result of *preceding* changes or actions, and it is not a cause; it is an error, therefore, to search, either by chemical reagents or by the microscope, for the *cause* of the disease in one of its *products*.

VIII. The chief *causes of death* in yellow fever appear to be:

1. The direct action of the febrile poison upon the blood and nervous system, depressing and deranging the actions of the one, and rendering the other unfit for the proper nutrition of the tissues.

2. The suppression or alteration of the functions of certain organs, as the kidneys and liver, and the retention in the blood of the excrementitious matters normally eliminated by these organs.

3. The structural alterations of the heart, and consequent loss of power in this organ

4. Profuse hæmorrhages from the stomach and bowels.

IX. Yellow fever differs essentially in its symptoms and pathology from malarial fever.

In the latter, the constituent of the blood, which appears to suffer to the greatest and most essential degree, is the colored blood corpuscle; in the former, the constituent of the blood which suffers to the greatest extent is the albumen.

The changes of temperature in yellow fever follow a definite course, and are never repeated in uncomplicated cases; in malarial fever, on the other hand, they recur at regular intervals, and may be indefinitely reproduced.

As a general rule, yellow fever attacks but once; malarial fever produces no exemption, but, on the contrary, establishes a disposition to frequent recurrence

Convalescence from yellow fever is comparatively rapid, and the constitution of the blood is rapidly restored; in malarial fever, the changes of the blood and organs, and especially of the liver and spleen, may be profound and long continued.





in which yellow fever patients lay caused the developement in solution of sugar, of a delicate fungus, the spores of which were distributed in regular rows, within the thallus. This plant as well as that developed in the yellow fever blood, assumed a distinct yellow color. Both penicillum and torulæ were observed in these solutions.

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## CHANGES OF THE CIRCULATION RESPIRATION AND TEMPERATURE.

Intermittent Fever. During the cold stage, (chill), there is a rapid, feeble pulse, rapid respiration, and hot trunk and cold extremeties—the temperature of the extremities, is reduced far below that of the trunk, and even below the standard of health. because the circulation of the blood in the peripheral capillaries is to a great extent arrested, apparently by the contraction of the unstriped muscular tissue of the walls of the ultimate artierioles. The diminution of the capillary circulation, and the reduction of the temperature of the extremities precede the aberated nervous and muscular phenomena denominated chill. This fact corresponds with the changes in the constituents of the blood, and indicates that the first phenomena of the cold stage are connected with derangements of the vaso-moter system of nerves. As a general rule, the higher the temperature of the trunk during the cold stage, the more rapid will be the equalization of the circulation and temperature. The severity of the fever (animal temperature), which often reaches in the hot stage 107° F., is by no means an index of the character and severity of the subsequent effects. As a general rule, the higher the temperature (within of course, certain defined limits, not exceeding 102° and 107.5° F.,) the more readily does the attack yield to treatment. The changes of the temperature in intermittent fever, are characterized by abrupt elevations and depressions, so that when the cases are projected upon a chart, they differ in the rapidity of the elevations and depressions from those furnished by yellow fever, typhus and typhoid fever and

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The liver in yellow fever presents various shades of yellow, and contains numerous oil-globules; the liver of malarial fever is of a dark color, most generally slate upon the exterior and bronze within, and is loaded with dark pigment-granules; the spleen is comparatively unaffected in yellow fever, while it is enlarged and softened in malarial fever; the heart and kidneys are softened and infiltrated with oil and granular albuminoid matter in yellow fever, while they are comparatively unaffected in malarial fever; the urine is almost always albuminous, and contains casts and bile in yellow fever, while in malarial fever albumen and casts are almost always absent, and the urine presents morbid periodic changes, corresponding with those of the paroxysm.

X. Yellow fever is a self-limited disease, occurring, as a general rule, but once in a lifetime. The constitution of the blood, and even of the textures of the body, is altered; the most important organs, as the heart, kidneys, and liver, as well as the most important nutritive fluids, are profoundly impressed. These changes of the blood, heart, kidneys, and liver, as well as of the nervous system, may be compared to the profound changes induced in the blood and organs, and especially in the integument, by small-pox. If this view be correct, we cannot by drugs arrest or cure yellow fever any more than we can arrest or cure small-pox, measles or scarlet fever. If drugs accomplish the effect of promoting the free and regular action of these emunctories through which the poison and the product of its action are eliminated, and if, further, they tend to preserve the integrity of the blood, and to sustain the actions of the circulatory and nervous system, they will, without doubt, achieve much good, and perhaps all that we are justified in looking for, in the present state of our knowledge. By judicious treatment, by proper ventilation, diet, and rest we place the patient in that condition which is best adapted to the successful elimination of the poison and its products; but we do not arrest or cure the disease, as we certainly may do in paroxysmal

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other diseases, the phlegmasia, phthisis, hospital gangrene and pyæmia.

REMITTENT FEVER.—The phenomena of the cold stage preceding the hot stage of remittent fever, are similar to those of intermittent fever; the difference is one of degree, and not of kind; the phenomena of the cold stage of remittent fever are more protracted than those of intermittent fever; the sympathetic system does not so rapidly regain its normal action, and the circulation in the capillaries of the extremities is not so rapidly restored in remittent as in intermittent fever. The alterations of the blood are more profound in remittent than in intermittent fever, and therefore it results that the cold stage is more prolonged in remittent than in intermittent fever. The elevation of temperature corresponds more accurately with the increased action of the circulatory and respiratory system in intermittent than remittent fever. Remittent fever may be distinguished from typhoid fever by the greater and more sudden elevations and depressions of temperature.

CONGESTIVE OR PERNICIOUS FEVER.—The complete prostration of the muscular and nervous forces, the reduction of animal temperature, both in the trunk and extremities, the cold, clammy sweat, the rapid febrile pulse, the rapid, thumping action of the heart, and the sudden intervention of the most alarming cerebral symptoms, may occur gradually or suddenly, in either intermittent or remittent fever, and may be induced by several distinct causes, acting singly or in conjunction. There is a want of coördination between the circulation, respiration and animal temperature in congestive fever. The respirations are full, accelerated, and often panting and heaving, varying from 30 to 50 per minute, the pulse beats from 120 to 160, and feels like a delicate thread, and is often so small that it cannot be counted; the heart thumps irregularly and spasmodically and rapidly, against the walls of the chest as in some cases of narcotic poisoning; the circulation in the capillaries is feeble; the temperature of the trunk, notwithstanding the full, rapid respiration, sinks below the

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malarial fever, by the proper administration of quinine.

XI. Upon a careful comparison of the main features of malarial hæmaturia, with those of yellow fever, the following points may be noted:

*(a)* In the last stages, after the supervention of jaundice and urinary suppression, many cases of malarial hæmaturia bear a striking resemblance to yellow fever in the period of calm, depression of circulation and black vomit. The vomited matters, however, in malarial hæmaturia contain *bile*, and the dark color is due to bile, rather than to blood.

*(b)* Important differences are revealed by the microscope between the organic and organized elements in the urine of these diseases: in yellow fever, the casts of the tubuli uriniferi are filled with yellow granular matter and oil globules; in malarial hæmaturia, the tubuli uriniferi in many cases present a dark brownish-red color, and contain dark pigmentary matter, and altered colored corpuscles, in addition to the yellow granular matter.

*(c)* After death from malarial hæmaturia, the fibres of the heart present under the microscope a normal appearance, the transverse striæ being distinct, and the oil globules and yellow granular matter characteristic of yellow fever, being in most cases absent. When no preceding lesions have existed, the heart of malarial fever, and of malarial hæmaturia, presents a firm structure, wholly different from the softened, altered and flabby yellow heart of yellow fever.

*(d)* There is less congestion of the mucous membrane of the stomach, and it is almost uniformly discolored by bile in malarial hæmaturia. Bile is absent from the contents of the stomach in yellow fever. Bile is universally present in the stomach of malarial hæmaturia.

*(e)* The heart, liver and spleen in malarial hæmaturia present the same structure, and the same microscopical and chemical characteristics, as in the various forms of paroxysmal malarial fever. In malarial fever, the spleen and liver are loaded with dark pigmentary particles; in yellow fever the former organ is without any special increment of pigmentary normal standard, and the surface is covered with cold, clammy sweat.

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## CHANGES OF THE URINE IN MALARIAL FEVER.

INTERMITTENT FEVER.—The amount of urine excreted during the active stages, and during the earliest stage of the intermission, is less than that of health, and this diminution relates to the water and not to the solid constituents. During convalescence, and especially under the action of depurants, the amount of urine is increased. The color of the urine varies from light orange to deep red. During the active stages the free acid is increased, but diminishes during convalescence. The urea is increased during the active stages above the standard of health, and especially during similar conditions of rest and starvation. The uric acid is diminished both with and without the action of the sulphate of quinia, during the active stages, when the pulse is full and rapid and the respiration full and accelerated, and the temperature elevated. As a general rule when the fever declines the uric acid increases above the standard of health, both with and without the action of the sulphate of quinia. In some cases the uric acid is increased to four fold the normal amount during convalescence. The urine of the intermission of malarial fever is characterized by heavy yellow deposits of urate of soda, and triple phosphates, the former, in the form of granular and acicular masses, and the latter as beautiful prismatic crystals. Phosphoric acid is greatly diminished and may have entirely disappeared during the chill and first stage of the febrile excitement. The phosphates are more abundant in the stage of convalescence than during the active stage. The deposits (so-called critical discharges), so common during convalescence, consist chiefly of the urates of soda, ammonia, and the phosphates, most generally in the form of triple phosphates.

The chloride of sodium is abundant during the cold and hot stages. The sulphuric as well as the phosphoric acid, is increased during the height and decline of the hot stage. The urine excreted during the fever is generally deficient in uric acid,

particles, and the latter is of a yellow color, and loaded with oil globules and yellow granular matter. When yellow fever supervenes in malarial fever, both the dark pigment particles, and the oil globules and yellow granular matter are found in the liver, and this organ presents a deeper color and more mottled appearance than in uncomplicated yellow fever. The gall bladder contains much more bile in malarial fever than in yellow fever, and this liquid is absent from the stomach and alimentary canal in yellow fever, but is universally present in malarial fever in all its forms.

(*f*) When in malarial hæmaturia the congestion of the kidneys is so great, and the structural alterations so profound as to cause urinary suppression, then another distinct train of phenomena is set up, which has much in common with the analagous condition in yellow fever when the function of the kidney is suspended.

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## CHANGES OF THE URINE IN YELLOW FEVER.

The reaction of the urine in yellow fever is acid. Even in the gravest cases, attended with suppression of the urinary excretion, jaundice and *alkaline black vomit*, the urine, however small the quantity excreted, maintains an acid reaction.

As a general rule, the specific gravity of the urine in yellow fever does not vary from that of health, and ranges from 1009 to 1028. In those specimens which gave the highest specific gravity, the increase in density was clearly referable to the increase of *albumen;* for when this constituent was coagulated by heat, and removed by filtration, the urine was of low specific gravity.

In some of the gravest cases, the specific gravity of the urine was only 1010, and presented a yellow color and was turbid from the presence of cells and casts of the excretory tubes of the kidney and granular and fibrinous matters and colorless corpuscles.

During the early stages of the disease, the urine is normal in color, clearness and quantity; as the disease proceeds, the urine becomes of a deep yellow color, from the admixture of bile, and at this stage, after and the earthly salts, while its acidity and power of resisting decomposition is greatly increased, and it will remain for a great time without undergoing decomposition. On the other hand, during convalescence the urine rapidly undergoes change, and deposits of the urates of soda and ammonia, and the precipitation of the triple phosphates, by the ammonia generated during the decomposition of the urea, form the so-called critical discharges of malarial fever. Albumen is almost universally absent from the urine of uncomplicated malarial fever; it is present, however, in that form called malarial hæmaturia, characterized by intense jaundice, and congestion of the kidneys, and passive hæmorrhages. In such cases the urine contains blood corpuscles and casts of the tubuli uriniferi filled with granular matter, detached uriniferous tubes and colored blood corpuscles.

The changes of the urine in remittent fever, are the same in kind, but different in degree from those of intermittent fever. The urine is higher colored, more concentrated, and richer in urea, phosphoric acid and sulphuric acid. If the case be protracted, the chloride of sodium diminishes as in typhoid fever. When the temperature falls below the normal standard in the early stage of convalescence, the urea, as in the similar stage of intermittent fever, decreases in amount. During the period of remission and convalescence, the uric acid, which had suffered decrease in the active stages, increases above the normal standard. The formation of deposits of the urates of soda, and of ammonia, and of the triple phosphates (critical discharges,) in the urine of remittent fever, is similar in all respects, takes place at analogous periods, and is due to the same causes as in the urine of intermittent fever.

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the full establishment of the febrile excitement, about the third, fourth or fifth day, becomes turbid from the presence of the excretory cells, tube casts and yellow granular albuminoid or fibroid matters.

The color may deepen to orange red as the disease progresses; or if the case terminates fatally from diminution and suppression of the urinary excretion, it maintains a yellow color, sometimes presenting an oily appearance and motion, and consists of but little else than albumen, bile, excretory cells and casts of the tubuli uriniferi, in a weak solution of the urinary constituents.

In some cases of suppression, although the *urea* is greatly diminished in the small amount of urine excreted, it is rarely if ever entirely absent. If the case ends in convalescence, the urine is copious and the color progressively increases in depth, and may even appear black when viewed *en masse*.

As far as my investigations extend albumen is an invariable constituent of the urine in grave cases of yellow fever, and may appear as early as the first day of the disease, but most generally it appears upon the second, third or fourth day. In yellow fever albumen may be found in the urine, as the only abnormal element, with or without other blood element, in company of abundant deposit of lithates, with or without deposits of purpurine, or other coloring matters in excess: in connection with biliary coloring matters, in connection with apyrexial states, and in connection with apyrexial states.

The constituents of bile are almost universally present in the urine, even in those cases which progress favorably and end in convalescence.

When there is no suppression of the urinary excretion, the urea is increased above the standard of health during the active stages of the disease and during the period of exhaustion or calm. I have obtained upon analysis as much as 1500 grains of urea, during 24 hours in a case of yellow fever, and that, too, when no nourishment was taken. Of all known diseases, yellow fever is characterized by the earliest and most uniform appearance of albumen and casts in the urine, and by the most marked tendency to urinary

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suppression; when, therefore, this occurs, owing to the chemical changes excited by the febrile poison, the blood is rapidly charged with urea and coma and uremic convulsions are the result.

In yellow fever the presence of albumen in the urine is attended by desquamation, fatty degeneration and disintegration of the excretory cells of the tubuli uriniferi. The granular casts so common in yellow fever, are composed of excretory cells, oil globules, and granular fatty and albuminoid granular matter, in some cases intimately mixed with urate of ammonia.

Those who have failed to detect albumen and casts at some period of grave cases of yellow fever, are either ignorant of the ordinary chemical tests and microscopical appearances, or have been careless and superficial in their so-called researches and observations.

When the kidneys are not seriously impaired by structural alterations the amount of urea excreted both during the stage of active febrile excitement and that of calm or depression, is at least five times more abundant than the amount of this constituent which would be excreted by a patient in health or even in Bright's disease similarly situated, lying perfectly quiet in bed, and taking little or no nourishment. This fact illustrates the absurdity of comparing the effects of urinary suppression in yellow fever, with the more tardy results in chronic Bright's disease.

In yellow fever urinary suppression causes the retention of not only the greatly increased amount of urea, but also of the various products of the action of the poison, as sulphuric acid, phosphoric acid, extractive, coloring and biliary matters.

The fever of the *first stage* of yellow fever, like *fever in general*, however caused, consists essentially in elevation of temperature, arising from chemical changes in the blood and tissues, and is attended with changes in the physical and chemical constituents of the blood and aberrated nervous action. As long as the skin, *kidneys* and *lungs* and gastro-intestinal canal perform their functions, this stage is characterized as in other fevers, by an increase in the amount of the solids excreted. But this in-

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| creased elimination of the products of chemical change is not, in yellow fever, a constant concomitant of the increased temperature, because, in virtue of the lesions of certain organs, as the kidneys and skin, the constituents of the urine and bile accumulate in the blood and become active agents in the production of aberrated nervous and muscular actions, and even of death itself. | |

## TABULAR VIEW OF THE PATHOLOGICAL ANATOMY OF YELLOW FEVER AND MALARIAL FEVER.

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| Exterior.—Generally full and not reduced in flesh; features may even present a swollen, bloated aspect. Skin of face and upper portions of trunk of a golden yellow color. Dependent portions of body of a mottled purplish and yellow ecchymosed appearance. Black vomit frequently oozes from corners of the mouth, and trickles down the face and neck. When the muscles are cut a large quantity of dark blood escapes, which upon exposure to the atmosphere changes to a bright scarlet hue. Putrefactive changes take place rapidly after death. In some cases of yellow fever, especially when the functions of the kidneys have been arrested for some time before death, the putrefactive changes take place with great rapidity and energy, and sometimes even appear to commence before death, the body exhaling a disagreeable odor. | Exterior.—The general appearance of those who die from the effects of malarial fever will depend upon the nature and length of time and the effects of the disease. When stout healthy men are suddenly destroyed by pernicious malarial fever, the body may present the fulness of health; and in such cases the superior portions of the body may, as in yellow fever, present a golden yellow color, whilst the dependent portions present a purplish and mottled appearance. The jaundice and mottling of the skin, however, is, as a general rule, present to a less degree than in yellow fever. In cases of protracted bilious fever the body is frequently greatly emaciated. In chronic malarial poisoning, attended with enlargement of the spleen and cirrhosis of the liver, the belly and body and limbs generally are distended with dropsical effusion. The cut surface of the muscles presents a purplish hue, and the change to the arterial hue, upon exposure to the atmosphere, is much slower and less perfect than in yellow fever. |
| Cerebro-Spinal Nervous System—Sympathetic Nervous System.—The post-mortem examinations of the brain, spinal cord, and sympathetic system have thus far revealed no characteristic lesions to which the aberrated nervous symptoms of yellow fever can be referred. Beyond congestion of the capillaries of the cerebro-spinal and sympathetic systems, which congestion appeared to be referable to the same cause as that producing capillary congestion in the internal organs, I have observed no structural lesion, as fibrinous effusion, hemorrhage, or soften- | Cerebro-spinal Nervous System—Sympathetic Nervous System.—As far as my observations have extended in malarial fever, the dura matter was always normal; the arachnoid membrane pearl-colored, opalescent in some cases, in others perfectly transparent and normal in appearance; the blood-vessels of the pia mater congested with blood, but most generally without marks of inflammation. Subarachnoid fluid in almost all cases clear, transparent, and in some cases of a golden color; the amount varied in different cases, sometimes exceeding, but most gen- |

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ing of the cerebro-spinal and sympathetic nervous structures. Chemical analysis revealed the presence of urea, bile, and leucine in the brain, and to the effects of these substances, as well as to the direct action of the yellow fever poison, must be referred the aberration of intellect, the restlessness, convulsions and coma.

The amount of the congestion of the blood-vessels of the brain will to a certain extent vary with the stage and with the conditions under which death takes place. Thus, when the functions of the kidneys are greatly impaired or wholly suppressed, owing to the retention of the watery element of the blood, the vessels throughout the entire system are filled with blood to repletion, and the brain is especially from its soft structure and the character of its circulation, the organ most affected. In such cases, the blood is seen issuing from numberless vessels when sections of the brain are made. Under the microscope the thin sections of the brain reveal a state of great hyperæmia, the minute capillaries being filled with colored blood corpuscles.

The golden hue of the brain substance and membranes, as well as that of the tissues generally, is due to the presence of the coloring matter of the bile, and not to the escape of hæmatin from the blood-vessels. When death occurs after profuse hæmorrhages from the stomach, and bowels, the cerebral structures present less evidences of congestion than when these symptoms have been absent or present to a small degree.

It is probable that the cerebral ganglia and commissures, as well as those of the spinal cord and sympathetic nervous system are affected with the same chain of chemical reactions which result in the formation and accumulation of oil in the blood and in the heart, liver and kidneys. In this connection the recent observations of Dr. H. D. Schmidt during the yellow fever of 1878, in the Charity Hospital of New Orleans are of interest, in that they sustain the view that the accumulation of oil is not confined exclusively to the liver, heart and kidneys.

Dr. Schmidt affirms that he has observed fatty degeneration of the

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erally falling short of the usual amount. Blood-vessels of the brain generally filled with blood. The structures of the brain appeared, in acute cases, as a general rule, to be unaltered either in structure or appearance; in chronic cases the nervous structures sometimes presented a deeper and more grayish color, from the presence of pigment granules.

The structures of the brain and spinal cord, in malarial fever, were therefore, as a general rule, altered neither in consistence nor appearance, and the same is true also with reference to the sympathetic nervous system.

The rapidity with which the symptoms of cerebral disturbance, such as coma and delirium, vanish under appropriate treatment, in many cases, render it evident that the congestion of the cerebro-spinal system is temporary and unattended with structural alterations. When death occurs in coma, the blood-vessels of the brain even to their minutest ramifications, are distended with blood, such congestion being not merely evident to the naked eye but also more fully shown under the microscope, when thin sections are made of the brain structures. The ventricles of the brain are also filled with serum, often of a golden color. The paralysis which sometimes results from a paroxysm of malarial fever, may be due to several causes, as the actual rupture of blood-vessels and the effusion of blood, the detachment of a fibrinous clot and the obstruction of some one of the arteries of the brain, and the impaction of the minute capillaries by pigment granules. Occasionally in cases of chronic malarial poisoning attended with a watery condition of the blood, coma, with dilated pupils, sometimes supervenes suddenly, and in such cases I have found the ventricles to be greatly distended with serous fluid, which by its pressure had caused the cerebral symptoms.

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nuclei in the walls of the minute vessels of the pia mater venules as well as arterioles. In many vessels the nuclei have disappeared, leaving a number of fat globules in their places; others are met with in which an increase of the mere trace of protoplasm, surrounding the nucleus in the normal condition has taken place, causing a thickening of the wall of the vessels. "With reference to the brain the most prominent observation thus far made is the existence of fatty degeneration of the blood vessels of the cortex-cerebri, similar to that observed in the vessels of the pia-mater, together with degeneration of the ganglionic bodies of the cortex."

If these observations should be confirmed by farther research and especially by chemical analysis, determining the exact proportion of oil in the brain in health and various diseased states, it will thus be shown that the nervous system both cerebro-spinal and sympathetic is involved in a similar series of changes as the other organs. The universality of these changes, point to the blood as the great medium and source of the chemical actions, and we have a confirmation of this view in the fact which I have determined by chemical analysis, that the oleaginous constituents are greatly increased in the blood of yellow fever.

That the mere presence of oil in increased amounts in certain organs, during yellow fever, is not the *cause* of the gravest symptoms, is evident from the rapidity of the convalescence in many cases; and also from the well known fact that in many cases the general health is greatly improved by an attack of yellow fever.

The grave symptoms of this disease must be sought not merely in the structural alterations of certain organs, but in the initial chemical changes induced by the poison, which precede the final lesions discoverable after death.

HEART.—Pale yellow and brownish yellow, as if undergoing fatty degeneration; structures of heart flabby and somewhat softened; numerous oil globules deposited within and around the muscular fibrillæ of the heart. Cavities of the heart, in

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HEART.—Normal in color, presents the deep purplish red muscular appearance of the healthy heart. Muscular fibres of the heart firm and of normal appearance under the microscope. No deposits of oil in the muscular structures.

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many cases, filled with dark fluid blood; yellow fibrinous clots sometimes present. Blood contains abnormal amounts of urea and extractive matters and ammonia. Fibrin of blood greatly diminished in amount.

I have determined, both by *chemical* analysis and microscopical examination, that the heart undergoes acute fatty degeneration in yellow fever. As far as my observations have extended, the heart undergoes more rapid and extensive degeneration in yellow fever than in any other acute disease. The acute fatty degeneration of the heart in yellow fever should not be confounded with similar changes observed in spirit drinkers and in certain chronic diseases, but is most probably dependent upon the same or similar chemical actions, as those leading to a similar result in phosphorus poisoning and in typhoid and typhus fevers.

In yellow fever the fat is deposited within and around the muscular fibrillæ of the heart, in the form of minute globules of various sizes. There is also an alteration or degeneration of the muscular fibrillæ of the heart, leading to a disappearance of the striation. The removal of the particles of oil from the muscular structures of the heart by sulphuric ether does not restore the obliterated striæ; neither does this agent remove all the molecular particles, a portion at least being insoluble in ether, alcohol and chloroform, and having an analagous constitution to albumen and fibrin.

Fatty degeneration of the heart, therefore, is not the sole state of this organ in yellow fever; a molecular change has taken place in the substance of the muscular fibres, and this change affects the albuminoid or nitrogenous constituents, and most probably represents one of the stages of acute fatty degeneration.

The pericardium in yellow fever presents a congested appearance. Under the microscope the minute blood-vessels appear to be injected with colored blood corpuscles. Pericardial fluid of deep yellow color.

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Cavities of the heart frequently distended with dark blood. Firm laminated, fibrinous concretions very common: and in some cases of pernicious fever, the formation of these heart-clots during the cold stage without doubt causes death, and renders unavailing the action of remedial agents.

The fibrinous concretions are not only attached to the carneæ columnæ and chordæ, tendineæ and auriculoventricular valves, but they also frequently send forth long branches into the pulmonary arteries. The formation of these concretions is rare in yellow fever, and when formed they are much smaller and softer than in malarial fever. The blood of malarial fever contains more fibrin, fewer colored corpuscles, and changes more slowly to the arterial hue, upon exposure to the atmosphere, than the blood of yellow fever.

In malarial fever the heart does not as in yellow fever, undergo fatty degeneration. We do not by any means wish to be understood as affirming that fatty degeneration of the heart is characteristic of yellow fever in contradistinction to all other diseases; but only as distinguishing this disease from the various forms of malarial, paroxysmal or paludal fever.

After careful microscopical and chemical examination of the heart, in the various forms of intermittent, remittent, congestive or pernicious malarial fever, and malarial hæmaturia, I have never observed any increase in the normal amount of fat or any condition which could be designated as molecular change, or acute fatty degeneration. If the heart be compared in malarial and yellow fever, it will be possible to distinguish by the naked eye, the flabby, softened, yellowish and brownish-yellow hue of the latter, from the dense firm, dark colored heart of the former disease. All doubts are immediately removed by the chemical and microscopical examination, the malarial heart presenting no accumulation of oil, and revealing a firm, normal, distinctly striated structure of the muscular fibrillæ. If acute fatty degeneration of the heart was characteristic of malarial fever, from the almost universal prevalence of this disease in

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| | the Mississsippi Valley, and other portions of the Southern and Western States, and from the oft recurrence of the disease in the same individual, fatty degeneration of the heart would become one of the common diseases in malarial regions. Pericardium not specially conjested. In some cases pericardial fluid of clear straw color, in others, especially when jaundice has existed, the pericardial fluid is of a golden color. |
| Lungs.—Dependent portions greatly congested; otherwise normal. In some cases circumscribed effusions of blood in textures of lungs.<br>I have in a few instances observed pneumonia as a supervening disease in yellow fever; in such cases the sputa consisted of almost pure blood. The supervention of pneumonia causes a continuation of the febrile phenomena beyond the usual period of the uncomplicated disease. | Lungs.—Dependent portions congested with blood; otherwise healthy.<br>Owing to the effects of the malarial poison in decreasing the fibrinous element of the blood and the colored corpuscles, pneumonia engrafted upon an individual suffering with malarial fever tends to spread by diffusive inflammation, and in the case of pleuritis as a supervening disease, the effusion into the pleural cavity is rapid and destructive in its effects. If pneumonia be complicated with malarial fever, the periods of congestion of the lungs, attended with oppressed breathing and increase of pulmonic inflammation are periodic and may be to a certain extent controlled by quinine. |
| Stomach.—Mucous membrane of stomach in many cases intensely congested, softened, and eroded. Stomach often contains large quantities of black vomit. Reaction of black vomit often *alkaline* from the presence of *ammonia*, resulting from the decomposition of *urea*, eliminated by the gastro-intestinal mucous membrane. *Ammonia* and *urea* present in the black vomit ejected during life and also when examined almost immediately after death. The presence of ammonia in the stomach and black vomit was not the result of post-mortem putrefactive changes. In many cases ammonia was present in such large amount, that when a rod, dipped in hydrochloric acid, was held over the mucous membrane of the stomach, or over the black vomit, dense fumes of chloride of ammonium were formed, as if the rod had been held over a bottle containing liquor ammoniæ. Chemical analysis revealed the presence of ammonia and also of urea in the black vomit. Under the microscope the black vomit was seen to contain colored blood corpuscles, and cells of the | Stomach.—Mucous membrane often presents a normal appearance; sometimes ecchymosed; rarely inflamed or softened; sometimes discolored with bile; rarely contains black vomit (altered blood). Reaction of mucous membrane of stomach and intestines acid. The pathological alterations of the stomach, observed after death, do not correspond, as a general rule, with the severity of the symptoms, the vomiting and pain on pressure during the progress of the fever. The injection of the blood-vessels, and the mottled, purplish-brownish red color, after death, appear to be indicative, not of inflammation, but rather of stagnation and accumulation of theblood in the capillaries, consequent upon the disturbance of the relations of the blood to the capillaries. The distressing vomiting, so often a troublesome symptom in malarial fever, appears to depend upon the contact of the altered bile and the irritation of the nervous centres which supply the stomach with nervous force, by the altered blood and by the malarial poison. |

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mucous membrane of the stomach, and broken capillaries. In some cases vibriones and fungi were numerous in the black vomit; in others they were absent.

That the stomach suffers and suffers severely in yellow fever is evident from the fact, that in a great majority of cases the stomach is finely injected with blood, and exhibits even when examined immediately after death, abrasions of the tissue in pit-like holes and furrows. In some cases the whole surface of the stomach is affected, in others the effusion and injection is confined to the cardiac or pyloric portion, but in some rare instances the stomach, duodenum and intestines have been said to present an almost entire absence of appreciable lesions. I have not myself in post mortem examinations observed the absence of lesions in the gastro intestinal mucous membrane. The congestion of the stomach is to a certain extent due to the disturbance of the circulation in the liver, but not wholly to this cause; we must from careful chemical and microscopical examinations admit the existence of irritation, desquamation and hæmorrhage.

INTESTINES.—As a general rule dark-colored and distended with gas. In some cases the reaction of the intestinal contents was strongly alkaline from the presence of ammonia. Hæmorrhage from the intestinal mucous membrane has been observed during life, and in such cases, as well as in others in which no blood has been discharged previous to death, the intestines have been found upon post-mortem examination distended with blood. A remarkable feature in yellow fever is the frequent occurrence of intersusception of the small intestines. The late Professor John Harrison, M.D., states that intersusceptions of the small intestines were exceedingly common in autopsies made in 1839, in New Orleans. The quantity of intestines invaginated, sometimes exceeded a yard. The large intestines and the lower portion of the small, are not so often found congested, as the stomach and duodenum, yet such a condition is by no means rare. The congestion

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In cases where there has been chronic inflammation of the stomach before the appearance of the fever, and in cases of long standing, where the solids and fluids were permanently altered, decided lesions of structure were found in the stomach. It may be asserted, however, that there is no constant or characteristic lesion of the stomach in malarial fever.

The vomited matters of the various forms of malarial fever, unlike those of yellow fever, contain bile. Even in that form of malarial fever which most nearly resembles yellow fever, namely: in malarial hæmaturia, the dark, almost black vomit, owes its color chiefly to altered bile. It is true that in some cases of malignant malarial fever, we may have the vomiting of dark blood and bloody matter, resembling the *vomito nigra* of yellow fever, but as a general rule bile is present, even in these rare instances, whilst it is almost always absent from the black vomit of yellow fever. The presence of blood and its constituents, occasionally, in the vomit of malarial fever is due to the same causes, namely: desquamation rupture of capillaries, and the transudation of the hæmoglobin of the colored corpuscles.

INTESTINES.—These remarks relating to the stomach, apply also to the small intestines. The mucous membrane frequently presented a purplish, irregularly injected, mottled appearance, especially after the administration of purgatives, and it was frequently observed that the injection of the blood-vessels was greatest in the dependent portions of the intestines. In several cases Brunner's glands in the duodenum were enlarged and distinct. The solitary glands of the small intestines appeared in many cases enlarged and distinct. Peyer's glands were uniformly free from any well-marked morbid alteration. In some cases they were distinct and well defined in their outline, and presented a honey-comb surface, dotted with dark points; but they were always free from marks of inflammation and even of irritation, and in their pale, white color contrasted strongly with the surrounding mucous membrane, discolored with bile and often irregularly injected with blood.

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of the veins, venules, and mucous membranes generally of the intestines in yellow fever, have been referred to the anatomical distribution of the veins, which like those of the stomach, are tributaries to the portal vein. But we have been inclined in many cases to regard the congestion as active and not passive. During life the rectum in yellow fever presents an intensely red, and congested appearance, and some cases of yellow fever in 1878, were followed by irritation and fissure of the rectum.

LIVER.—Yellow color and bloodless, resembling this organ in fatty degeneration, but firmer and denser in structure. Under the microscope, textures of the liver infiltrated with oil; secretory cells of liver contain much oil. The liver of uncomplicated yellow fever, as far as my observations extend, and acco ding to the observations of Louis and many others, is of a bright yellow color. It is probable that this color, as in the case of the malarial liver, varies with the length of the attack and the effects of previous diseases. Thus Dr. Samuel Jackson, of Philadelphia, found the livers of those who had died in the early stages engorged with blood. The decoction of the yellow fever liver is of a golden yellow color, whilst that of the malarial liver is of a brownish yellow color. The golden yellow color of the yellow fever liver can be extracted both by alcohol and water. The yellow fever liver is firmer and harder than that of malarial fever, contains much less blood, and is much less readily acted upon by liquor potassæ and acids. Liquor potassæ readily dissolves the malarial fever liver, the decoction presents the appearance of venous blood, while no such effect is produced by the action of this alkaline solution upon the yellow fever liver.

Chemical analysis reveals the presence of urea and fat in abnormal amounts; animal starch and grape sugar are also present in the yellow fever liver. As a general rule grape sugar is absent from the malarial liver.

In some cases the deposit of oil is confined to certain portions of the tubuli and may even differ in amount in different portions of the liver, but

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As a general rule, bile is found in the intestinal canal of malarial fever, and in some cases in large quantities, whilst it is absent from the entire alimentary tract in fatal cases of yellow fever.

LIVER.—The weight of the liver is increased in malarial fever above the standard of health. This increase of weight is due in part to the stagnation and accumulation of blood in the capillaries and blood-vessels, and to the deposit of pigment matter in the structures of the liver. This observation applies to the liver in the acute stages.

In all the different forms of malarial fever, intermitient, remittent and congestive, which had continued longer than five days, and in which there had been no previous alterations of the structures, as in cirrhosis and fatty degeneration, I found the exterior of a slate color, and the interior of a bronze color. In that form of cirrhosis of the liver which is directly induced by the prolonged action of the malarial poison, the liver is in like manner of a slate color upon the exterior, and olive green within, and loaded with dark pigment granules. The change in the color appears to be very persistent, and in several cases I have observed the liver to retain shades of light slate and light bronze several weeks, and even months, after the relief of the attack of malarial fever, the patients having been destroyed by other diseases or by violence. The liver, especially in the peripheral portions of the lobules, contains pigment granules, resulting from the alteration of the colored blood-corpuscles and the hæmatin. The pigment granules are frequently distributed uniformly through both the portal and hepatic systems of capillaries. There is no accumulation of oil globules, as in the yellow fever liver. If malarial fever precedes or succeeds yellow fever, the liver may

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in the majority of cases the fatty infiltration, and fatty degeneration of the protoplasm of the hepatic cells, extends throughout the whole organ. The oil is deposited both within and around the hepatic cells. Careful investigation of the relations of malaria to yellow fever, and an extended examination of the statements of various observers, have convinced me that, the apparent contradictory statements made by various observers, as to the presence or absence of the yellow color of the liver, which Louis regarded truthfully as the characteristic lesion of the disease, has arisen from two sources, namely, errors of diagnosis, and failure to detect the preceding and concurrent, and subsequent action of malaria upon this organ. In uncomplicated yellow fever, the pigment particles so uniformly present in the malarial liver are entirely absent. When yellow fever has been engrafted on malarial fever, the preceding changes wrought by the paludal poison alter and mask those developed by the yellow fever. And hence a mingling of the yellow color of acute fatty degeneration with the dark bronze and slate of the malarial liver, may produce a color very closely resembling the Spanish brown of the healthy liver. Careful sections and examinations of the organ under the microscope will reveal both the oil globules and the pigment particles.

GALL BLADDER.—The gall bladder in yellow fever is, as a general rule, contracted, flaccid, small, and contains little or no bile. The amount of bile generally does not exceed 100 grains. In malarial fever, on the other hand, the gall bladder is, as a general rule, distended with dark, greenish, black bile. In yellow fever the vomiting is rarely bilious, unless in the commencement of the disease; and the black vomit contains little or no biliary matter.

The small intestines are rarely, if ever discolored by bile in yellow fever, whilst in malarial fever it is common to find the gastro-intestinal mucous membrane discolored by bile.

I have observed cases in which the gall bladder contained only a serous liquid coagulable by heat. In two cases, a decided hæmorrhage had

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contain both oil globules and pigment granules.

The peculiar color of the malarial liver can to a certain extent be extracted by boiling water, and the filtered decoction presents a brownish mahogany color, from the presence of the dark coloring matters of the pigment granules; the decoction of the yellow fever liver, on the other and, presents a golden color. The blood issuing from the cut surface of the malarial liver presents a dark purplish hue, and does not change to a brilliant scarlet, as in the yellow fever liver. Upon chemical examination, the malarial liver contains animal starch, but no grape-sugar; the yellow fever liver contains both substances.

Whilst, by careful analysis (quantitative), I have shown that the oil may amount to over 40 per cent. of the yellow fever liver; I have also clearly demonstrated that there is no increase of oil in the malarial liver.

I speak of uncomplicated malarial fever; of course when this disease, is engrafted upon cirrhosis or fatty liver, the effects of the malarial poison upon this organ will be marked.

GALL BLADDER.—In most cases distended with more than 1000 grains of thick, greenish black bile, having frequently a specific gravity ranging from 1.030 to 1.037. The bile is more abundant in malarial fever and is of a deeper color, and frequently contains concretions of epithelial cells, from the coats of the gall bladder and biliary ducts, and casts of the biliary tubes. In thin layers, and when added to water, it presents a deeper shade of green. The yellow fever bile presents a golden color in thin layers and when added to water.

Whilst hæmorrhage occasionally occurs in the gall bladder in yellow fever, I have never witnessed this remarkable condition in malarial fever; neither have I ever observed the entire absence of bile and the replacement of this secretion by an albuminous fluid in malarial fever.

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| taken place into the gall bladder, which was distended with black blood. The bile in yellow fever contains numerous cells from the mucous membrane of the gall bladder, and casts of the hepathic ducts. | |
| Spleen. — As a general rule but slightly enlarged. In many cases normal in size and appearance. In many cases of yellow fever the spleen is neither enlarged nor softened, nor altered in appearance, either upon the exterior or within. There appears to be no special alteration or destruction of the colored corpuscles in the spleen of yellow fever as in that of malarial fever. The enlargement of the spleen in fevers does not, from these observations, depend upon the diminution of the fibrin, because this element of the blood is diminished to a much greater extent in yellow fever than in malarial fever, and at the same time the spleen is enlarged to a great and marked degree in the latter. Another fact worthy of consideration in this connection is, that in yellow fever the colored blood-corpuscles are not specially diminished in amount, whilst in malarial fever they are rapidly destroyed, and this destruction appears to be greatest in the liver and spleen. In malarial fever both these organs are loaded with the altered blood-corpuscles and with the pigment granules resulting from the alterations of the colored corpuscles, whilst neither the spleen nor the liver in yellow fever afford any evidence of alterations of the colored blood-corpuscles. | Spleen.—Enlarged, softened, and loaded with altered blood corpuscles and pigment granules; of a dark slate color upon the exterior; the blood of the spleen does not change to the arterial hue upon exposure to the atmosphere. In many cases the spleen is so soft that it ruptures when the attempt is made to remove it from the cavity.<br>When the splenic mud is subjected to microscopical examination it is found to contain numerous pigment granules of various sizes, and pigment cells, many of which resemble the colorless corpuscles in size, whilst others are much larger and contain oval nuclei and resemble certain palmellæ. |
| Supra-Renal Bodies.—These bodies appear to be subjected to similar changes with the liver and heart, and oil is increased in amount in the cells of the cortical and medullary substance. | Supra-Renal Bodies.—Frequently discolored of a dark brownish hue, from the deposits of melanotic or pigment particles, around the cortical and medullary cells and capillaries.<br>No accumulation of oil has been observed in these bodies in malarial fever. |
| Kidneys.—These organs, as a general rule, present a brownish yellow color, much lighter than that of health. They, in common with the heart and liver, contain much free fat. When thin sections of the kidneys are examined under the microscope, the Malpighian corpuscles and tubuli uriniferi are found to be filled with granular albuminoid and fibroid matter, excretory cells detached, and | Kidneys.—Normal in appearance and structure, except in malarial hæmaturia, when the textures are congested, and dark colored in some cases. Occasionally slate colored spots appear upon portions of the kidneys.<br>I have, by careful clinical studies, and by analysis of the urine, at different stages of malarial hæmaturia, established the fact that many of |

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oil globules. As far as my observation extends, these structural alterations of the kidney have escaped the notice of preceding observers. The importance of these changes in the kidneys cannot be over-estimated, for upon them apparently depends the suppression of the urinary excretion, which is an almost universally fatal symptom. The changes in the kidneys may depend upon several causes, amongst which may be mentioned as of prime importance the alterations induced in the albumen and fibrin of the blood by the febrile poison, and the congestion of the capillaries induced by derangement of the vaso-motor system of nerves and by the altered blood.

This condition of the kidneys is preceded by capillary congestion, as has been shown by the results of post-mortem examinations at different periods of the disease. The same observation applies to the liver. The fatty degeneration and structural lesions are preceded by hyperæmia; but neither in the kidneys nor in the liver and other organs, can the mere stagnation of the blood in the capillaries be regarded as the *prime cause* of the subsequent degeneration and disintegration of the textures, and more especially of the secretory cells. The chief cause is the action of the yellow fever poison on the blood and textures. The yellow fever poison excites a train of chemical changes, the final result of which is fatty degeneration and molecular disintegration. Thus in the case of the muscular fibres of the heart, there is fatty degeneration, although from the structure and action of this organ, there could be no such passive congestions as we have in the liver and kidneys. It is probable that this fatty degeneration extends to all the unstriped muscular fibres, and may even disable the muscles of locomotion and animal life. The granules of the cells of the epithelium of the uriniferous tubes set free by the disintegration of the protoplasm, oil globules, detached cells, and albuminous matters and mucus, form opaque granular masses which block up the tubuli uriniferi.

We have in these structural alterations of the kidney, which vary in kind and degree according to the

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the symptoms of the disease as well as the fatal termination are connected with the progressive failure of the kidneys to eleminate the constituents of the urine and of the bile.

When sections were made of the kidneys of those who had died in the acute stages of malarial hæmaturia, the cortical and medullary portions presented a deep purplish red and bloody appearance. The color was deeper in some portions than others, resembling circumscribed effusions of dark blood. In many cases all portions of the kidneys were altered in appearance, and the tubuli uriniferi especially at the termination of the pyramids could be seen resembling dark red lines of coagulated blood. Microscopical examination of sections with Valentine's knife, revealed the fact, that many of the tubuli uriniferi throughout their entire extent, were filled with coagulated blood. The hæmorrhage appears to have taken place through the malpighian corpuscles chiefly; little or no blood was effused around the tubuli uriniferi. It would appear that during the prolonged cold stage, the kidneys become in this form of malarial fever, conjested, in a manner similar to what occurs in the spleen. During this congestion, rupture of the blood-vessels and of the capsular membrane of the malpighian corpuscles occurs: such rupture being mainly due to their anatomical structure, and the greater tension of the blood in this portion of the renal capillary circulation. When from any cause the blood coagulates in the tubuli uriniferi, their function as excretory tubes is destroyed, and the extent of the impairment of the excretory function of the kidneys, will depend upon the number of excretory tubes blocked up by coagulated blood. The grand cause of the severe, dangerous and often fatal character of malarial hæmaturia will be found chiefly in these structural alterations of the kidneys.

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| stage of the disease, an explanation of the frequent occurrence of albumen casts, detached cells of the epithelium of the uriniferous tubes, and oil globules and granular matter in the urine of yellow fever. | |
| Urinary Bladder.—As a general rule the bladder contains little or no urine in yellow fever. The urine is of a light yellow color, without any crystalline bodies, and loaded with albumen, granular fibroid matter, urate of ammonia, casts of the tubuli uriniferi, and excretory cells of the kidney. In many cases the urine is entirely suppressed for as long a period as 48 hours before death. So long as the kidneys perform their functions freely and regularly the patient may recover, even though black vomit may have appeared, but if the action of the kidneys has been arrested by structural changes, death is inevitable. | Urinary Bladder—Often distended, with high-colored urine, free from albumen and casts. In malarial hæmaturia the urine contains casts and blood-corpuscles, and desquamated cells of the tubuli uriniferi. Casts high colored, and often contain colored corpuscles. |

*(Abstract of Proceedings Continued in Next Number.)*

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

## AUGUST, 1879.

## ORIGINAL COMMUNICATIONS.

### Extirpation of a Floating Kidney.

By A. W. SMYTH, M.D., New Orleans.

Mrs. Honora Arnetto, *nèe* Cunningham, a native of Ireland, thirty-five years of age, of medium stature, delicate build, dark complexion, fifteen years married, no children, was brought to Dr. Smyth by Dr. Greensville Dowell, of Galveston, in April, 1879.

She gave the following history of her case:

Eight years previously, she began to be afflicted with a pain in her right side. Shortly after the commencement of this pain, she discovered a tumor in her right side, to which she attributed her suffering. She tried various remedies for the relief of her pain, without any benefit. In 1873, Drs. Wilkinson and Calloway, of Galveston, where she and her husband resided, performed on her the usual operation for ovarian tumor, without removing the cause of her trouble. The year following, her suffering still continuing, Dr. Greensville Dowell, believing that the pain was owing to the mobility of the tumor, passed a large curved needle with a tape-seton through the walls of the abdomen, and through the tumor, with the purpose of causing adhesion, so as to prevent the moving of the

tumor in the abdomen. Some hæmaturia was noticed after this operation. The seton was retained for three months, and gave some relief. At the end of that time the tape broke and came away. The seton caused a persistent offensive discharge from the wound.

Six months afterwards, Drs. Calloway and Penny—Dr. Dowell being absent from Galveston—attempted twice to re-introduce the seton. But, on both occasions, broke their needles, leaving the broken ends in the abdomen.

Two months later, Dr. Dowell introduced the seton again, but without giving as great relief from pain as in the first instance.

From continual suffering after this, her mind gradually became impaired, and in June, 1875, she was taken to the State Lunatic Asylum, in Austin, Texas, where she remained for two years. During her confinement there, the second seton came away. Her husband, in the meantime, having removed to New Orleans, received a communication from Dr. D. R. Wallace, the Superintendent of the Asylum, of the fact that his wife had recovered sufficiently to return home; and in November, 1877, she came alone to New Orleans.

On her arrival there she applied to the Charity Hospital, when Drs. Pratt and Miles, the surgeons in charge of the institution, told her that the tumor was a floating kidney.

She says this is the first intimation she received that it was her kidney that was the cause of her suffering. The medical officers of the Charity Hospital did not, however, suggest the propriety of surgical interference.

At the time of the meeting of the State Medical Association in New Orleans, in the month of April, 1879, she was called on by Dr. Dowell, who finding her anxious for a surgical operation, brought her to Dr. Smyth, with a request that he would attempt the removal of what he believed at this time to be the *fons et origo mali*—the floating kidney.

Dr. Smyth promised that if she persisted in desiring it to be removed, after being informed of the risk, that he would attempt the operation.

Finding that the promise was received with so much courage

and hopefulness, that she kept continually calling for its fulfilment. Dr. Smyth, after once or twice deferring the time for operating, engaged that on the 3d of June, at the Hotel Dieu, at 11 o'clock, A. M., he would perform the operation.

At this appointed time, Dr. Smyth, in company with Drs. Boyer, Burns, Lewis, Devron, White, Jamison and Murphy, found the patient at the Hotel Dieu, quite courageous and as determined as ever to have the operation performed.

She was removed to the room in which it was to be attempted, and with the same courage and coolness that had always characterized her, took the position assigned to her on the bed, and, even with cheerfulness, submitted to the administration of chloroform.

The operation was commenced by making an incision in the right side of the lumbar region, extending externally from the crest of the ilium to the edge of the eleventh rib, two and a half inches by measurement from the median line of the spine and parallel with it. Internally the incision extended to the edge of the twelfth rib. The muscles and the transversalis fascia having been divided, search was made for the kidney, which was found in the umbilical region. The kidney, by pressure upon the abdomen, was forced into its place, and while held there by an assistant, the fascia covering the kidney was ruptured by the finger, and the organ was extracted without difficulty. While still in the wound, a strong ligature was passed round the renal vessels and other connexions, at a distance of less than an inch—perhaps, about half an inch—from the hilus; and the organ was then detached. No elongation of the connexions of the kidney were observable.

Nothing worthy of special note—much less anything untoward—occurred during the operation. At its conclusion, two sutures were inserted, to bring the edges of the integuments together, in the upper part of the wound, the ligature being left hanging out of the lower part. The wound was dressed with a solution of carbolic acid, of the strength of one drachm to a pint of water. A hypodermic injection of half a grain of sulphate of morphia was administered, and repeated at bed time.

On the day following there was slight febrile disturbance, which increased on the third day, when the temperature reached 103° F., and the pulse 100.

On the fourth day the temperature was 102° F., and the pulse 80.

On the fifth day the temperature was normal, and the pulse 70. Very free suppuration occurred from this time to the tenth day, when the ligature came away.

On the eleventh day, the patient got up and walked about without pain.

She complained of little or no suffering after the operation; and objected to the use of the hypodermic injection on account of the pain it gave her, after the fourth day.

No medicine, whatever, of any kind—not a dose of anything—was given to the patient, either before or after the operation; the only treatment used being four hypodermic injections, of half a grain each, of sulphate of morphia.

The kidney removed was found to be of normal size, but to be scarred with a deep cicatrix, extending, from the inferior and outer edge, obliquely up, and out, and apparently through the pelvis. The length of the cicatrix, was about two inches and a half. It was evidently the result of the seton introduced, which had cut its way completely out of the organ.

The operation has been followed by complete recovery; and the patient no longer complains of the trouble afflicting her, on account of which it was undertaken.

Owing to the limited information to be gathered from the ordinary text-books on the subject of this operation, it is not generally known that there had been more than one—that of Prof. Simon—successfully performed. We find, however, in Bryant's Practice of Surgery, that at least as many as twelve are reported, with four recoveries.

It may be worthy of special note that in this case of Dr. Smyth's, the operation was performed through the lumbar region, that it was found not difficult of performance, and that it was not followed by any apparent dangers or risks.

# Treatment of Yellow Fever.

BY JOSEPH JONES, M. D.

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(*Extracts from Clinical Lecture delivered in the Amphitheatre of the Charity Hospital, February 5th, 1879. Reported for the New Orleans Medical and Surgical Journal.*)

## LECTURE V.

### TREATMENT OF YELLOW FEVER, AND CLINICAL LECTURES ON THE YELLOW FEVER EPIDEMIC OF 1878, CONCLUDED.

GENTLEMEN—

I endeavored to conclude the subject of yellow fever at our last lecture, but I was led by your kind and earnest attention to enter into details which consumed the hour, before our observations on the *Treatment of Yellow Fever* were more than half finished.

At the close of the lecture we were considering the febrifuge properties of the Yellow Jessamine (*Gelsemium Sempervirens*), but before reaching "the *thread of our* discourse," we desire to present some general observations relating to the present and future advances of therapeutic experiment and research.

### GENERAL OBSERVATIONS ON PRINCIPLES OF TREATMENT OF YELLOW FEVER AND OF THERAPEUTIC INQUIRY.

If it were possible to isolate the poison of yellow fever, it would also be possible to experiment with it, as with other well known poisons; and thus not only might its physiological toxicological and lethal effects be established; but it might also be possible to determine its antagonistic remedies.

Toxicologists have long been familiar with the fact, that the well known laws of chemical affinity may be applied to the neutralization of the effects of certain poisons; thus alkalies neutralize acids, equally within or without the stomach; tannin forms an insoluble compound with tartar emetic, albumen with corrosive sublimate, sulphuric acid with soluble salts of lead, and the hydrated sesquioxide of iron with arsenious acid; these actions, however, related to the poison remaining in the alimentary canal, and did not extend their antagonism to that which was absorbed, and reached all the organs and tissues

through the medium of the blood. Since the year 1661, when Horstius gave opium to relieve the consequence of a large dose of belladona, facts have slowly accumulated illustrating the power of one drug to modify and counteract another; but it is only within the present generation, and I might almost say, within the last fifteen years, that this, the most potent and withal the subject capable of the most precise demonstration connected with therapeutics, has been elucidated by the experiments of Bois, Camus, Onsum, Brown Sequard, Claude Bernard, Prof. Preyer, of Jena, Bartholow, of Cincinnati, Schmiedeberg, Koppe, Kleinwächter, Bourneville, Frazer, J. Hughes Bennett, Oscar Leibreich, of Berlin, John Harley, Weir Mitchell, Keen, Morehouse, Mackendrick, Crichton Browne, Sydney Ringer, Lander Brunton, W. J. S. Ladell, W. Outhwaite, Francis L. Haynes, Levinstein, H. C. Wood, J. Milner Forthergill and others.

A few brief and well known illustrations will serve at once to illustrate the great importance of a knowledge of the antagonism of medicines, and at the same time will indicate the immense and rapid advance which will be made in the precise therapeutic knowledge of diseases, when their specific poisons are discovered and their physical and chemical, and physiological and toxic properties, relations and effects are precisely established.

The effects of belladona upon the pupil of the eye are so pronounced that they have tempted observers to experiment with these drugs which *contract* the pupil; thus a large and valuable series of observations illustrating the antagonism which exists between calabar bean and belladona have accumulated; and experiments have led to the discovery, that these drugs which have an opposite effect upon the iris, have also an antagonistic action in other directions quite as marked. In the various experiments of Prof. Frazer, the influence exerted by atropia upon the action of physostigma is shown to be a most remarkable and conspicuous one, for it effectually counteracts the lethal activity of certain doses of physostigma, whether it be given within a certain time before, simultaneously with, or within a certain time after that substance. The experiments of Oscar Liebreich, of Berlin, and of Prof. Hughes

Bennet, of Edinburgh, have displayed in a clear light the antagonism of *chloral hydrate* and *strychnia*. Prof. Bennet has also shown by experiments, that hydrate of chloral modifies to a great extent the action of a fatal dose of extract of calabar bean, mitigating symptoms and prolonging life, and even saving life in some instances from a fatal dose of extract of calabar bean. The antagonism of morphia and belladonna has been shown by numerous observers, and it has been shown that the toxic effects on the cerebral organs, of these two agents were mutually antidotal.

Whilst it must be admitted that we cannot at this moment formulate in such precise language, the mode of action of drugs, in neutralizing, mitigating or antagonizing the poison of yellow fever, we are nevertheless led by such facts as we shall now briefly consider, to the belief that the knowledge arrived at by experimentation, will give greater precision and efficiency to the efforts of the physician in combatting this much dreaded pestilence, and will still farther enlarge that most important and useful body of experience which has been accumulating with the medical profession in the city of New Orleans during the past century. The facts which inspire the physician with renewed confidence even when leading a forlorn hope against one of the most destructive pestilences of the age, may thus be rapidly recalled.

Seizing upon the fact that calabar bean lowers the pulse rate and respiration, and depresses the action of the spinal motor centres, Dr. Crichton Browne administered with the most benificial results, this drug in controlling the violent outbreaks of excitement to which sufferers from general paralysis are subject.

From the actions of calabar bean and chloral, as established by experiments, it is evident that they are unsuited to cases where both the respiration and the circulation are implicated, as tending to increase the probability of failure in these systems, and so of causing death. But in other conditions where there is vascular excitement and corresponding respiratory activity, the persistent use of these depressant remedies is admissible, and often may be resorted to with advantage.

It is well known that chloral is an hypnotic of great value,

especially when the insomnia is not due to pain; and when the insomnia is associated with excitement, and especially vascular excitement, chloral is *par excellence the hypnotic*, in virtue of its double effect upon the brain cells and upon the circulation. It has thus been considered by many therapeutists as peculiarly adapted to conditions of pyretic insomnia with vascular excitement, but as will be shown more fully hereafter, it should be used with caution in certain stages of yellow fever. Chloral lowers the heart action, so that the circulation is rendered less active, while its effects upon the cutaneous vessels is to dilate them, and by this double action of impaired chemical interchanges from lowered circulatory acitvity, and increased mass of blood in the external or heat-losing area of the organism, the bodily temperature is much reduced. In addition to its action on the circulation, chloral powerfully affects the respiration, and in chloral poisoning the immediate cause of death is generally a paralytic arrest of respiration, but there may be also a simultaneous arrest of the cardiac action and fatal syncope. Therefore the practical conclusion has been reached that chloral should never be given, or if so, only with the greatest caution, in cases where the respiration and circulation are both involved, as in chronic bronchitis with dilatation of the right heart, and emphysema, and in cases of valvular disease of the heart, and in the second stage of yellow fever attended with fatty degeneration of the heart, feeble general and capillary circulation and embarrassed respiration.

It is well known that in the majority of cases, death occurs from opium by failure of the respiration, and experiments have shown that such failure is due to the direct action of the poison upon the respiratory centres in the medulla; thus, whilst strychnine obstructs the respiration by inducing spasm of the respiratory muscles, morphia on the other hand, kills by bringing those muscles to a standstill in paralysis. The experiments of Professor Hughes, Bennett and others, have established the antagonism betwixt theine and caffeine and morphia, and that the action of the one substance modifies that of the other, and may even save life from a fatal dose of either substance.

In bronchitis, morphia should be used with great caution, for it not only arrests secretion and thus increases the difficulty

of expectoration and respiration, but its action upon the respiratory centres is such as to paralyze them when already embarrassed. In the hacking cough of phthisis, when cough is excited by the presence of diseased masses in the lungs, and when the cough is distressing, and yet useless, in that it is incapable of getting rid of the source of irritation, morphia is useful in effectually stopping the reflex mechanism of cough; but at the same time it destroys the appetite, locks up the bowels, lowers the respiration, and produces exhaustion by the profuse sweats which it excites. Morphia acts upon the skin, and aggravates the night sweats, to which patients suffering with phthisis are subject. Dr. J. Milner Forthergill has combined belladonna with morphia, and found that this checks the sweats, while the morphia allays the cough, the action of morphia upon the cough not being interfered with by the co-administration of the belladonna, which affects the terminal ends of the vagi in a manner which aids the action of morphia, the favorable effect being not confined to the skin, but to the respiration also.

I might multiply these well known examples, by detailing the effects of strychnia, digitalis, belladonna, aconite and other remedies, which are capable of neutralizing, antagonizing and relieving various diseased states, but we conceive that those briefly related are sufficient to illustrate the idea that there will be a progressive advance in the application of therapeutic principles and agents, even to such a dangerous and rapidly fatal diseases as yellow fever.

The impression appears to be wide spread, that treatment accomplishes but little in diminishing the mortality in yellow fever; but the old adage that familiarity breeds contempt, might even be applied to this disease, for those who have met it most frequently in its native haunts, are, as a general rule, the last to admit the truth of this impression, and the first to acknowledge that important principles have been established, and much valuable experience accumulated, relating to the therapeutics of this disease. Thus it has been estimated that during the epidemic of 1878, between 25,000 and 30,000 cases of yellow fever occurred in New Orleans (the President of the Board of Health in his report, estimates the number of cases

at 25,000; Col. Hardee, of the Board of Health, and United States Yellow Fever Commission, in his canvass of the city, places the number over 27,000); both figures should be regarded as mere approximations to the entire number which will never be precisely determined, and of this number, 4046 proved fatal. We may express the results thus: Of the entire population of New Orleans, about one case of yellow fever occurred in 7.77 of the entire population, and one death in 51.9 of the population, and one death in 6.66 of the entire number of cases. The relative mortality was greatest in the Charity Hospital, reaching over fifty per cent., it was far less in private practice, reaching, in my own limited series of cases, 18 deaths in 256 cases, or one death in 14.0 cases, or 7.0 per cent. mortality.

Such rates of mortality are not greater than those characteristic of other severe diseases, as pneumonia, pleuritis, peritonitis and typhoid fever, and far less than in unmodified small-pox and Asiatic cholera and the true plague.

It is true that the mortality was much greater in those places where yellow fever was comparatively unknown, and the different rates of mortality must be referred to several causes, as the following:

1st. In New Orleans, a large proportion of the population were exempt in virtue of previous attacks of the disease, and were therefore in a condition to render efficient and continuous aid to the sick and afflicted.

2d. A large number of experienced nurses, familiar with the treatment, nature and sudden changes of the disease, were at all times at the command of the sick in New Orleans.

3d. The medical profession of New Orleans, as a rule, have had extended experience in the treatment of the disease, and they have inherited the precepts and experience of near an entire century, in a city which has suffered more frequently and to a greater extent than any other on the face of the globe.

4th. When yellow fever formed a lodgment in interior towns and cities to which it had previously been a stranger, it found an unprotected population, which was prostrated almost simultaneously by the pestilence and tortured by harrassing fears. Whole families were stricken down. The husband was unable to nurse the wife, and the mother and father could render no

assistance to their stricken children; the servants fled panic-stricken, and the faithful physician yielded up his life almost by the bedside of his patients; and even the dead were deprived the last rites of love and religion. Under such circumstances, with a pestilence sweeping almost with the rapidity of the whirlwind and prostrating all before it, who can wonder that many perished for want of proper nursing and medical attendance, and that the mortality was necessarily much greater than in cities furnished with experienced and seasoned and acclimated physicians and nurses?

It is evident from the preceding facts that the profession in all places where yellow fever prevails, should form a corps of well instructed and trained acclimated nurses.

We will now resume our observations on the treatment of yellow fever, at the abrupt point at which we terminated on on the 29th of January.

YELLOW JASSAMINE (*Gelsemium Sempervirens*), CONTINUED.

Dr. W. W. Durham, in a letter addressed to the Purveyor of the Confederate Army, dated Decatur, Georgia, 5th of October, 1862, says that gelsemium is without doubt the most potent febrifuge known to the profession. This potency seems to depend on its relaxing and antispasmotic properties, as may be inferred from its efficacy in the treatment of tetanus, in controlling which, according to Dr. Durham, no other known agent is comparable. It is now used and highly extolled by many respectable physicians in all fevers except the congestive form. It is said by some to be the only agent yet discovered capable of subduing in from two to twenty hours, and without the least possible injury to the patient, the most formidable and most complicated, as well as the most simple fevers, incident to our country and climate, quieting all nervous irritability and excitement, equalizing the circulation, promoting perspiration, and rectifying the various, secretions without causing nausea, vomiting or purging, and is also adapted to any stage of the disease. It may follow any preceding treatment with safety. Its effects are clouded vision, double sightedness, or even complete prostration and inability to open the eyes, and which pass off in a few hours, leaving the patient refreshed and completely

restored; and as soon as the heaviness or partial closing of the eyes is induced no more of the remedy is necessary, although these effects should follow the first dose. If carried to such an extent that the patient cannot open his eyes, the relaxation may be too great for the system to recover from, hence its use should cease as soon as the symptoms above named are produced. Drs. Cleveland, Branch, Nash, Douglass, and others, have, in like manner, testified to its narcotic, antispasmodic and sedative effects.

The control of gelsemium over the nervous system is marked, and hence it has been used with advantage in all forms of neuralgia, nervous and bilious headache, chorea, hæmorrhage, rheumatism, gout, and various diseases.

It is, however, in pneumonia pleuritis, and fevers, that its good effects have been most observed by Southern and Western physicians, in controlling irregular nervous action, promoting perspiration, reducing febrile heat, and thus aiding greatly the powers of nature in fever, and also the action of other remedies.

Dr. R. N. Taylor, of Kentucky, in his inaugural thesis (Richmond and Louisville Medical Journal, June 1875, p. 593–624) has shown by experiments and vivisections that the gelsemium sempervirens has a direct depressant effect upon the heart, diminishing both the force and frequency of its action, and that it exerts marked effects upon the temperature. In one case the temperature of a healthy subject was reduced, in seven hours, by a hypodermic injection of five minims, as low as 96.6° F., and it did not regain its normal standard until the expiration of nearly eighteen hours. In the experiments upon animals under the influence of poisonous and fatal doses, the temperature was very much diminished and in one case it fell from 100° to 95.8°.

Dr. Taylor also details cases illustrating the power of gelsemium to reduce the frequency of the pulse and the temperature in remittent fever, pneumonia, and acute articular rheumatism. Dr. Taylor thus explains the action of the drug in reducing the temperature:

"It has been seen, heretofore, that respiration is very much diminished in frequency, and the fall in temperature is, no

doubt, dependent in part upon the diminished consumption of oxygen and the consequent diminution in the processes of combustion going on in the body. The temperature and the circulation bear a direct relation to each other, rising and falling together; the temperature always being in direct ratio to the arterial pressure. Gelsemium lowers the frequency of the pulse, and by dilating the capillaries, produces a remarkable diminution of the blood pressure. Upon this, no doubt, depends principally the fall in temperature. The action of the drug in producing a reduction of fever temperature, admits of an easy explanation. According to the very accurate researches and studies of Traube, every fever begins with an energetic contraction of the cutaneous capillaries, preventing the going off of heat to the air, and thus more heat is collected in the body. Gelsemium dilates the capillaries, even in medicinal doses, and thus the accumulation of heat in the body is prevented." Dr. Bartholow has also recorded the fact that gelsemium causes a very great fall of temperature in animals. The physiological action of gelsemium sempervirens has been more recently investigated by Drs. Murrell and Sydney Ringer, (Hand-book of Therapeutics, 1878, p. 487, and London *Lancet*, 1876 and 1877), Dr. Roberts, Dr. Berger and by Dr. Isaac Ott (Action of Medicines, 1878, p. 124.)

Prof. T. G. Wormley, in 1870 (American Journal of Pharmacy), first showed that the root of the yellow or Carolina Jessamine, contains an alkaloid, *gelsemia* in combination with *gelseminic acid.*

According to Dr. Isaac Ott, on the lower animals, *gelsemina*, destroys voluntary movement increases and decreases spinal reflex excitability, produces convulsions. has no action on the motor nerves, muscles and sensery nerves, reduces the heart-beat by an action on the excito-motor ganglia, and disperses the arterial tension by diminished tonus of the vaso-motor centre in the brain, decreases respiratory frequency by an action on the centres of respiration; the temperature of the body is also reduced.

Gelseminic acid convulses more than gelsemina, and causes a brilliant fluorescence of the humors of the eye; in other

respects it acts on the nervous system like gelsemina. Artificial respiration will save poisoned animals.

On man, gelsemina produces double vision, ptosis, want of co-ordination, disagreeable feeling in the head, great muscular relaxation, drooping of the lower jaw, tongue stiff, sensation blunted, pupils dilated, respiration slow, irregular, pulse slow, surface cold, and congested, unconsciousness, and death by asphyxia. Ringer and Murral state that during the diplopia, the images in the upper part of the field of vision appear at different heights, although actually in the same plane. Locally the drug contracts the pupil, whilst internally it contracts and dilates it, by paralyzing the third pair. The medicine affects the sixth nerve before the third, as the external rectus is the first muscle weakened. Taylor states that it increases the urine and reduces the pulse, respiration and temperature. Tweedy states that it impairs the power of accommodation of the eye for near objects.

Its value in neuralgia, and especially in trigeminal affections, appears to depend upon its power of diminishing the excitability of the receiving ganglia.

In fevers of a sthenic character, the diminution of pulse, arterial tension, and temperature afford an explanation of its value.

In the treatment of yellow fever, as well as of other fevers, and pneumonia pleuritis and acute rheumatism, I have employed the tincture of the gelsemium sempervirens with benefit. The same precautions, however, should govern its use in yellow fever as were pointed out with reference to veratrum viride: the use of this remedy should be confined chiefly, if not entirely, to the early and what might appropriately be termed the *sthenic* stage of yellow fever before the completion of the tissue changes peculiar to this disease. The grand objects to be accomplished in the treatment of this stage are diminution of pulse, arterial tension and temperature, and the promotion of free diuresis and diaphoresis, and the prevention and control of undue cerebro spinal excitement. We have employed other remedies as aconite to produce similar results, but have relied chiefly upon the veratrum viride.

9. MEASURES FOR THE REDUCTION OF TEMPERATURE IN YELLOW FEVER.

We* have shown by careful observations that if the temperature in yellow fever rises either in the first or second stage of yellow fever above 105° F., the patient is in imminent danger; and if it reaches from 107.6° F. (42° C.), to 111.2° F. (44° C.), death is almost inevitable whatever may be the treatment adopted. In this fact we have a powerful argument for the constant employment of the thermometer in the investigation of the phenomena of this disease, as affording sure grounds not only for prognosis but also for treatment.

If the thermometric changes of yellow fever be projected upon a chart, and a comparison be instituted with the thermometric changes in other diseases, it will be observed that the former more nearly resemble the rapid rise and fall of temperature observed in varioloid, without secondary fever, mild scarlatina, and simple, uncomplicated pneumonia, which runs its course without fresh accessions of inflammatory action, while on the other hand they differ materially from the rapid and oft recurring elevations and depressions of temperature characteristic of the various forms of paroxysmal malarial fever. These remarks apply to those cases of yellow fever in which the fever is confined to one paroxysm; but as we have previously shown, there is another class of cases in which, and that too often without any warning, there is a sudden rise of temperature to extraordinary heights with rapid fatal issue.

These two types correspond to the two chief modifications of small-pox: the brief, continuous form, resembling the modified or moderated disease *varioloid*; the *relapsing* type, resembling *variola vera*, in which there is a marked secondary rise of fever in the suppurating stage. It is well known that in *variola vera*, as in yellow fever, in some fatal cases, the temperature may rise rather quickly from moderate heights to very considerable degrees, and death may occur at 107.6° (42° C.), or even more, although during the stage of secondary (suppurating fever), the patient may sometimes die with only very moderate eleva

* Changes of Temperature and Pulse in Yellow Fever, by Joseph Jones, M.D., American Practitioner, September, 1873. Boston Medical and Surgical Journal, August 28th, 1873.

tion of temperature. Simon has published cases of small-pox, in which the temperature (which, however, was measured after death) was 110.75° F. (43.75° C.) and 112.1° F. (44.5° C.)

With reference to the application of remedies to control and prevent the great rise of temperature in yellow fever, two views may be held as to the relations of the elevated temperature to the fatal issue.

1*st. The elevated temperature induces those changes of the tissues, and more especially of the heart, liver, kidneys, and of the blood, which precede and cause death.*

2*d. The elevated temperature is only an evidence of active, chemical change, and a result, and not the cause of the tissue changes.*

The latter view appears to be correct because as we have shown by numerous elaborate studies of cases of yellow fever*, that jaundice, urinary suppression, and black vomit are often accompanied by a slow pulse and but moderate elevation of temperature.

The cause of the rapid rise and fall of the temperature in yellow fever must be sought chiefly in the changes in the blood, and in those organs upon which the circulation and integrity of the blood depend. Neither the rapid rise nor fall of the temperature can be referred wholly to the effects of the poison upon the nervous system.

While it must be admitted that the experiments of Chossat, Brodie, Nasse, Claude Bernard, Brown-Séquard, Budge, De Ruyter, Waller, Schiff, Naunyn, and Quincke, and the experiments of Tscheschichin, in which division of the medulla oblongata, near its juncture with the pons caused a remarkable elevation of temperature from 102.9° to 108.68°, and finally convulsions and death, and a large number of pathological observations, in which most remarkable variations of temperature accompany profound alterations and disturbances of the nervous system, without corresponding changes in respiration and circulation, sustain the theory of *centres of control*, which

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* New Orleans Medical and Surgical Journal, 1873-1874; New York Medical Journal; Boston Medical Journal; Richmond and Louisville Medical Journal; American Practitioner.

have their seat in the brain, and which regulate the activity of the spinal cord (when they are destroyed the activity of the spinal cord being morbidly increased, as manifested by increased reflex action, quickened respiration, acceleration of the cardiac systole, and increased animal heat), and that a great part of the pathological phenomena of warmth, may be only the expression of the action of the vaso-motor nerves; and still further, that the integrity of the central parts of the central nervous apparatus is more necessary for the regulation of animal heat than that of any other parts of the body. On the other hand, Breuer and Chropak, after an investigation of the question whether the nerves of a part supply elevation of temperature in an inflamed part, by means of experiments on animals, in which they have as far as possible divided all the nerves of one part of the body, think themselves justified in concluding that the force of the traumatic inflammation is independent of the nervous connections of the inflamed part with the nerve centres; and by an extended series of observations* I have established the fact that in hospital gangrene and pyæmia the elevations of temperature are independent of the local lesions of the structures, and are coincident with the introduction of the gangrenous and pyæmic poisons into the blood, are intimately associated with the changes of the blood and urine, and are invariably accompanied by increased amounts of such constituents as urea, phosphoric and sulphuric acids; and even the traumatic fever accompanying gun-shot wounds arises from the introduction of inflammatory products into the blood, and depends not so much upon the extent and nature of the wounds as upon the state of the solids and fluids at the time of the injury, and upon the character of the inflammatory products absorbed into the circulation. Even in such inflammatory diseases as pneumonia, attended with extensive tissue change, the introduction of certain inflammatory products into the blood must more or less influence the production of high temperatures.

It is well known that some of the most violent poisons during

* Investigations upon the Nature, Causes, and Treatment of Hospital Gangrene as it prevailed in the Confederate Armies 1861-5, by Joseph Jones, M.D., Surgical Memoirs United States Sanitary Commission, vol. ii, pp. 145-570.

their direct action upon the nervous system are unattended with elevations of temperature, while on the other hand putrid matters, pus, and certain animal secretions, as the poison of the rattlesnake and copperhead, induce profound alterations in the blood, attended with the most marked variations of temperature; and in the latter class of poisons the phenomena appear to be akin to the changes which may be induced by ferments, which are not only capable of increasing the amount of heat, but may be *limited* in *their actions*, or in the amount and character of the changes which they induce, in virtue of their chemical constitution and that of the blood or medium in which they are active.

Certain substances, as woorara, coffee, musk, and camphor, and putrid fluids have a direct effect in raising the temperature after their entrance into the circulation. Voisin and Lionville, by means of subcutaneous injections of woorara, induced a complete artificial fever in human beings, with rigors, heats, and sweatings, the temperature rising to 104.8°, accompanied with all the signs of febrile circulation and secretion and disturbance of the nervous system.

When certain putrid solutions or pus are injected into the blood the temperature rises considerably within two hours, and reaches its maximum in from two to twenty-eight hours. After a single injection rapid defervescence generally sets in shortly after the acme has been reached, while on the other hand, after repeated injections, death constantly occurs, generally with high temperatures. Fluids from inflamed tissues, pyæmic and septicæmic blood, and even the blood drawn in simple inflammatory or other kinds of fever, produce similar elevations of temperature.

Fresse has determined by experiments that the rise of temperature induced by the introduction into the blood of the products of decomposition and of inflammatory tissue destruction do not depend upon the *pus-corpuscles*, nor upon the so-called *germinal matter*, but upon the *serum* of the fluid. *Even boiling* and subsequent *filtration does not destroy the property*; and the removal of the fibrin, and even the filtration of the blood of animals suffering from fever, does not deprive it of the pyrogenic effects when injected into the circulation.

The unknown cause which excites the specific morbid process of yellow fever would appear to have something in common with the action of such putrid animal substances, and the fact is worthy of note that the property possessed by such matters of exciting chemical changes and elevation of temperature was not destroyed by boiling and subsequent filtration; for we have thus a clear demonstration that the animalcular, vegetable, or germinal theories as to the origin of yellow fever are not absolutely necessary to the explanation of the febrile phenomena.

Neither the rapid rise nor the sudden declension of the temperature in yellow fever therefore are necessarily referable solely to the effects of the poison upon the nervous system; because, in the first place, the changes of the blood are among the first manifestations of diseased action, and the progress and termination of each case is largely dependent upon the extent and character of the changes of the blood and the degree of temperature; in the second place, the sudden fall of temperature during the succeeding stage of calm may be referred to the peculiarity of the self-limited chemical changes excited by the poison, and to the structural alterations induced in the muscular tissue of the heart and in the liver and kidneys, and the sedative action of the bile, urea, and other excrementitious products retained in the blood, upon the nervous system; and finally the changes in the blood, heart, liver, and kidneys are of a definite physical and chemical nature, and could never be induced by a mere exaltation or depression of nervous action, and must be referred to the introduction and action of some agent or material related in a definite manner, in its chemical constitution and physical properties, to the fluids and solids in which it induces these profound, physical and chemical changes.

Without doubt the action of the yellow fever poison upon the nervous system may be direct and most important, but the facts do not justify us in locating the origin of the disease wholly in the action of the poison upon the nervous system; and in fact the earliest manifestations of disordered nervous actions, as uneasiness, loss of appetite, and chilly sensations, may be entirely secondary to the changes in the blood, by

which all parts of the nervous system are surrounded and supplied.

It is, however, impossible in the present state of our knowledge to refer the changes of temperature in yellow fever with certainty to either the decrease or increase of any one constituent of the blood; for M. Andral* has shown that when the blood contains more than four one-thousandths of fibrin the temperature rises, and in a corresponding ratio. Thus of all diseases pneumonia is marked with the greatest increase of fibrin, and is the highest in temperature of all the phlegmasiæ. Of eighty-five cases, in only thirteen was the temperature below 102.2°; in forty-four it was between 102.2° and 104°; in twenty-six between 104° and 105.8°; and in two rose to 106.16°. In acute pleurisy, in which there is always less fibrin, the temperature only once reached 105.8°, and usually oscillated between 101.3° and 103.1°. M. Andral, however, records exceptions to this relationship of the increase of fibrin and the elevation of temperature in inflammatory diseases, as in erysipelas, where there have been only seven one-thousandths of fibrin, the temperature has been 107.24°; and he very justly does not consider the increase of fibrin and the rise of temperature as cause and effect; for in the pyrexiæ, when there is no excess of fibrin, but rather a diminution of this constituent, the temperature is as high or higher than in the phlegmasiæ. Indeed, the highest degrees are reached in diseases where there is the least fibrin in the blood. Neither does the number of red globules affect the rise of temperature to an appreciable degree in inflammations and fevers, as I have carefully determined by a comparison of the constitution of the blood with the elevations of temperature in various diseases.

It is evident, therefore, that the cause of the rapid rise and sudden decline of the temperature in yellow fever must, as I have said, be sought chiefly in the changes induced by febrile poison in the blood, and in those organs, as the heart, liver and kidneys, upon which the circulation and integrity of the blood depends.

* Medical Times and Gazette, London, July 1, 1870.

(*To be continued.*)

## Diagnostic Differences Between Chancre and Chancroid.

[In a recent discussion upon chancroid and syphilis before the Orleans Parish Medical Society, Prof. T. G. RICHARDSON, M. D., presented the following summary statement of his views upon the distinctive differences between the primary stage of acquired syphilis and chancroid:]

Such is the conservatism of all truly philosophic investigators in medicine, as well as in other departments of scientific research, that notwithstanding the great advance made within the past century in the diagnosis, pathology and treatment of nearly all diseases, the influence of great names in the perpetuation of error is still strongly felt by all who propose a new departure. The justly renowned John Hunter, the acknowledged English authority, not only in surgery, but also in general pathology during the last quarter of the last, and nearly the first half of the present century, pronounced all venereal diseases to be dependent upon one and the same exciting cause. He proved to his own satisfaction and that of the rest of the world, that gonorrhœa, soft chancre (or as we now call it chancroid) and syphilis were essentially identical, and the apparent differences resulting from their introduction into the human system were due to the mode of contagion, the tissues involved, and the peculiar state of the constitution of the patient. Strange as it may seem to us of the present day, this opinion prevailed to a large extent throughout England and this country until comparatively modern times, and resulted, as may be readily conceived, in plans of treatment as often disastrous to the patient as to the disease.

Scarcely had gonorrhœa been detached from this alliance, and proved to be a local inflammation, having a definite history and amenable to non-specific remedies, than it was hinted by the French pathologists, that by pressing the wedge of investigation still farther another rupture might possibly be effected; that what was termed soft or simple chancre, might be separated from its only remaining associate, and each made to stand upon its own individual foundation. I need scarcely say that what was only a suggestion thirty or thirty-five years ago is now an accomplished fact; that chancroid (soft chancre) and syphilis are now recognized by the great majority of surgeons and pathologists as totally distinct affections, having separate

histories, productive of entirely different effects upon the human system, and demanding for their relief modes of treatment almost diametrically opposed the one to the other. I do not mean to imply that this "dual doctrine," as it is sometimes called, though based upon rigid observation and experiment made in all the great centres of medical learning, has no opponents. On the contrary, the influence of the great men who are now passing away, and who have not abandoned the views which formerly prevailed, is still felt at the circumference of the profession, and will continue to exert itself until the text-books on medicine and surgery commonly recommended to medical students have been revised, or a new series introduced. Indeed, judging from what I almost daily hear from patients as to their previous treatment, I am warranted in the belief, that comparatively few general practitioners have had their attention particularly directed to the diseases in question, and are not therefore fully informed as to the true position which has been reached, and the great practical importance of the points which have been established. I would not have it thought that I am over-credulous of the stories which many patients indulge in with reference to their medical advisers (whom in nine cases out of ten, they have deserted without settling their just accounts), but when I ascertain either by examination or questioning that in a case of ulcer upon the genital organs, mercurial remedies have been employed steadily for a longer or shorter time with the view to ptyalism, I cannot be mistaken as to the pathological ideas held by the prescriber, and am therefore entitled to draw my own private inference as to his acquirements and practical sense. As the matter now stands, I do not hesitate to declare that the physician who undertakes to treat these diseases without a clear understanding of their radical pathological and therapeutical differences is criminally responsible for the sad mistakes he is sure to make.

Asking your pardon for these prefatory remarks, I now proceed to the consideration of the special question selected for discussion this evening, which I understand to be the etiological, clinical and pathological resemblances and differences between chancroid and the initiatory stage of syphilis known as

chancre. For the purpose of bringing the subject clearly and concisely before the Society, I shall present it in the form of a series of dogmatic statements with the hope that these may be freely criticised by all whose observations and deductions differ in any manner from my own.

## I. POINTS OF RESEMBLANCE IN CHANCROID AND ACQUIRED SYPHILIS.

1. Both are infectious diseases, the result of local contagion, and present themselves primarily as sores which secrete a poison similar to that by which they have been produced.

2. The primary sores occur only at such points where the virus has been brought into contact with the sub-cuticular layer of the skin or mucous membrane.

3. Both are most commonly propagated by sexual intercourse, hence the greater frequency of the primary sores upon the genital organs. Any portion of the cutaneous or mucous surfaces may however become the seat of either of the two diseases when the conditions mentioned in the preceding proposition exist, as is sometimes witnessed in the case of dressers and surgeons who become accidentally inoculated in the performance of their duties by means of minute sores, abrasions or wounds upon their fingers.

4. In both affections the primary ulcers are liable to assume different phases of action, such as the phagadenic, serpiginous and gangrenous.

In these four particulars the two diseases often present a very strong likeness, which for the moment may occasionally lead even a very skilful surgeon to reserve his diagnosis. The distinctions however, a brief synopsis of which I will now present, are usually sufficiently well marked to justify an early if not an immediate decision.

## II. POINTS OF DISTINCTION BETWEEN CHANCROID AND ACQUIRED SYPHILIS.

1. *a.* In chancroid there is scarcely an appreciable period of incubation. When the virus has been brought into contact with a cutaneous or mucous surface from which the cuticle has been removed, within a very few hours thereafter a running

sore is produced whose secretion possesses the same infectious quality as that from which the inoculated poison was derived. The rapidity of the effect is somewhat moderated when the virus has been inserted beneath the cuticle by means of a lancet or other sharp pointed instrument, or has become imprisoned in like manner by a slight rupture of the cuticle which closed immediately as often occurs in coition. In such cases a small papule is developed within twenty-four or forty-eight hours which soon becomes a pustule terminating in a day or two in a defined suppurating sore.

*b.* Syphilitic, like vaccine virus, produces no apparent effect for several days after contact, and the primary sore (to which the name *chancre* should be strictly limited) does not ordinarily attain its full development in less than three and sometimes in less than four weeks. This fact has been conclusively proven not only by clinical experience but by experimental inoculation.

2. *a.* Chancroid, in its formation and progress, is nearly always accompanied by heat, pain, redness and swelling. It thus declares its presence unmistakably to the patient, and compels him to seek relief.

*b.* Chancre is seldom attended by any inflammatory symptoms, and sometimes reaches its maturity without having attracted the attention of its victim.

3. *a.* Chancroid is very commonly multiple, the sores numbering from two to as many as six or eight. This multiplicity may result from as many consentaneous inoculations, but more likely from rapid propagation from one or two original sores. In the latter case the abrasion of the cuticle necessary to effect the result is usually produced by the inflammation excited in the surrounding parts by constant contact with the irritating purulent secretion, and also not rarely by scratching and frictions on the part of the patient.

*b.* Chancre is nearly always single, and seldom or never duplicates itself by subsequent contamination of the adjacent surfaces. When double, as has been occosionaljy observed, inoculation of the two points must have occurred simultaneously or within two or three days of eách other.

4. *a.* The virus of chancroid, as may be inferred from what

has been just stated, is auto-inoculable. The purulent secretion furnished by the sore during its active stage and up to within a very short time of its complete cicatrization is capable, either by accidental or experimental inoculation, of producing any number of similar sores in the same individual.

*b.* The secretion of chancre when brought into contact with an abraded surface or introduced beneath the cuticle of the individual in whom the primary sore exists, produces either no effect or else a very greatly modified sore possessing no power of infection so far as has been ascertained.

5. *a.* Chancroid varies in size from a line to an inch or more in diameter, has usually clearly defined edges, a surrounding inflammatory areola and a slightly depressed angry-looking surface. Its secretion is abundant and purulent, varying in its consistency, but often presenting the physical qualities of laudable pus. It is essentially a *wet* sore, and the adjacent surface for a considerable distance is kept continually bathed in the foul discharge.

*b.* The ulcerated surface of chancre is not often larger than three or four lines in diameter, but is frequently smaller, has sloping edges, no inflammatory areola, and except when irritated by injury or other accidental cause, or by the application of stimulating substances, or unless phagadenic in its character, furnishes a very meagre amount of sero-purulent secretion. It is, comparatively, a *dry* sore, but the secretion slight as it is, is capable of doing an amount of damage that is truly appalling.

6. *a.* Chancroid is usually superficial, and unaccompanied by decided thickening or hardening of the surrounding or subjacent tissues. Hence it was formerly and is still called by some writers *soft chancre*. This characteristic is, however, frequently lost by the application of escharotics.

*b.* Chancre is generally distinguished by a remarkable thickening and induration of the tissues beneath and around the ulcerated surface. This may be easily determined by lightly grasping the parts between the finger and the thumb, when the sensation imparted will be like that of a disc of india rubber beneath the skin or mucous membrane. At other times,

however, this circumferential hardening is not well marked, although it is probably never altogether absent. This difference in degree should be always borne in mind in making a diagnosis, and the value of the symptom as a characteristic estimated accordingly.

7. *a.* Chancroid nearly always shows a tendency to spread, and sometimes attains to a very large size in a few days.

*b.* Chancre is indolent and frequently remains unchanged in dimension or otherwise for several weeks.

8. *a.* Chancroid is frequently productive of bubo, but this is not a necessary result, and should be looked upon rather in the light of an accident. When present, it is ordinarily limited to the lymphatic ganglia nearest the sore, but the inflammation may spread to other ganglia upon the route of the lymphatic vessels leading from the spot, and thus give rise to a polyganglionic swelling. The bubo of chancroid is commonly accompanied by acute inflammation, which results in the formation of a collection of pus possessing the same infectious quality as that of the original ulcer. In such cases the virus seems to be carried from the chancroid by the lymphatic vessels and lodged in the *rete* of the ganglion, where it excites suppurative action. In other instances where suppuration does not take place, the probability is that the swelling is due to a simple extension of the inflammation along the lymphatic vessels, as is often observed in connection with non-specific ulcerations.

*b.* In chancre there is always enlargement of a number of the adjacent lymphatic ganglia, unaccompanied by pain or other marked symptoms of acute inflammation, and possessing little or no tendency to suppurate. When the primary sore is seated upon the genital organs all the ganglia of the upper inguinal group upon each side are usually affected. Suppuration occasionally occurs in consequence of external injury or of a depraved state of the system, but this is rare.

9. *a.* Chancroid is not succeeded by discolorations of and eruptions upon the skin and mucous membranes, ulcerations of the throat, falling of the hair, specific inflammations of the deeper tissues or other symptoms of constitutional infection.

*b.* Chancre when left to itself is invariably followed by cuta-

neous and mucous eruptions, ulcerations in different parts of the body, deep seated inflammation, morbid deposits in various tissues and organs, and numerous other effects which characterize it as one of the most penetrating and dreadful constitutional diseases to which the human body is liable. Superadded to the power of producing these dreadful consequences in its original victim, it possesses the quality of heredity in a marked degree, and thus the sins of the parent are visited upon the children throughout several generations.

10. *a.* As chancroid is not a constitutional disease it is in no degree protective. On the contrary it may repeat itself an indefinite number of times in the same individual when the latter is exposed to the exciting cause.

*b.* Chancre is as strictly constitutional as the vaccine pustule, and like the latter so modifies the system that no new infection possessing the true characteristics like the original can be produced.

11. *a.* Chancroid is not arrested or moderated but often powerfully aided in its destructive action by mercurialization or iodism.

*b.* Chancre is frequently cured and its secondary results prevented by the judicious administration of mercury. When the infection has reached the secondary and tertiary stages mercury and iodine *when properly employed* are truly antidotal.

## Contribution to the Hydrological Treatment of Bright's Diseases.

By DR. A. W. de ROALDES, Resident Physician, Waukesha Springs, Wisconsin.

Read before the New Orleans Medical and Surgical Association.

In bringing the discussion to bear upon Bright's diseases, our confrere and friend Dr. Loeber has chosen, with great propriety, I think, to limit the wide field of albuminuria, which is too vast to run over in one evening. Limited as the question may be, it still affords room for different views.

No one will dispute that, in some cases of albuminuria, the disease is entirely constituted by a renal lesion, as, for example: Albuminuria resulting from exposure to cold, or again cantharidian nephritis. But what constitutes Bright's diseases? There lies the question. For some physicians it is merely and primarily a local renal lesion; for others, and this seems to be a more philosophical view, Bright's diseases are in their very incipiency general affections, constitutional disorders, dyscrasiæ, as scrofula, gout, rheumatism, syphilis, of which albuminuria, at the start, is only a symptom. The excretion of albumen may in these conditions be the initial phenomenon without being accompanied, in the beginning at least, by any lesion of the kidneys. Albumen may be excreted by these organs as sugar is. The only difference between diabetes and incipient albuminuria of Bright's diseases, lies in the excreted substances. If it be sugar, a hydro-carbon possessed of dialysable properties, the excretion will be effected without producing any local disorder in the parenchyma or stroma of the kidney; if, on the contrary, it be albumen, a colloid substance, the kidney will soon become affected. This transudation of albumen is accompanied by renal congestion; if it be moderate, the disease may run a very slow course. There are cases of Brightic albuminuria, which may have a very long duration, ten, fifteen, twenty and more years. I was consulted, two months ago, by a medical gentleman, who has been passing albumen ever since 1874. It is only in the last two years that the examination of his urine has revealed the presence of casts, and it is only since this comparatively short time that his general health has become affected. Last summer, at the springs, I had under my charge a lawyer from Paris; his physician, Dr. Gubler, stated in his letter to me, that our patient had been passing albumen ever since 1853. This slow progress of the disease is witnessed only in such constitutions, as are free from a diathetic influence. Take, for instance, a scrofulous, a syphilitic, a rheumatic, or a gouty patient, whose constitution shows a tendency to the evolution of morbid products of a retrogressive character. The congestion, in such cases, will soon lead to the formation of neoplasms, to the proliferation of

new cellular elements, etc. Simple albuminuria will then be of very short duration and will soon result in Brightic diseases.

But I shall not stop to enquire the cause, by reason of which albumen escapes from the blood to mingle with the urine. Is it the kidney which just becomes diseased, or is this organ secondarily affected? Must we, on the contrary, look for the incipiency of the malady in a functional disorder of the liver and stomach? Or is it the blood which is primarily affected?

I particularly desire to-night to direct your attention to a few special points of therapeutics of Bright's diseases. In contending with these affections, you must with me have observed the striking discrepancy in the results obtained in the treatment of hospital patients, as against those obtained in the treatment of patients of a better class—the former, as a rule, are extremely discouraging, whilst the latter afford, at times, a reasonable degree of satisfaction. I am aware that the discrepancy may, in a measure, be due to the fact that, in the former instance, we are called upon to see our patients when the disease has reached an advanced stage. But are they not also measurably due to the fact that we are, unfortunately, limited almost exclusively, I may say, to the use of pharmacodynamic agents?

*Medical hydrology, climatology, hygiene and electricity now seem to take precedence in the treatment of chronic diseases. And I am inclined to the belief that in Bright's diseases you will often obtain more satisfactory results if, with due regard to the indications furnished by the etiology of the affection, you give a greater weight when possible to these powerful modificators. I have had occasion during the past few years to obtain some happy results by the use of medical hydrology applied to Bright's diseases. You will, therefore, before I proceed further, permit me to condense a few observations which will enable me to draw some conclusions in regard to the use of this therapeutical method.

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* Medical hydrology treats of the internal and external use of water in disease, and comprises mineral springs, sea-bathing, douches of all sorts, medicated baths, Turkish and Russian baths, etc.

OBSERVATION I.—CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

Mr. C., a gentleman about 47 years of age, was directed by his physician, Dr. L'héritièr, of Paris, to follow a water cure at the calcic springs of Vittel. Mr. C. had an attack of cholera in 1871, and of rheumatism in 1872. With these exceptions his health has been good up to 1877, when he began to lose flesh and strength without any apparent cause. In September, of the same year, he suffered from intense dyspeptic troubles, with marked dysphagia and shortness of breath. In March, 1878, got wet in a very heavy rain and had a spell of acute desquamative nephritis followed by two relapses, at short intervals. Fever, general pains over the body, with marked sensibility over the lumbar region, gastric symptoms, œdema of legs and thighs, urine heavily loaded with albumen, were among the characteristic symptoms. Patient arrived at the springs June 5th. His urine presents an acid reaction, it is frothy and clear, except at the bottom of the vessel, where a white yellowish sediment is observed. His urine of the day contains 5 grammes 18 centigr. (a little over 80 grains) of albumen; the one of the night, 3.13 gr. (about 49 grains); urea, 15.30 gr. (about 228 grains). Microscopical examination of sediment shows numerous large, dark colored crystals of uric acid, broad granular casts in large number, a few narrow, pale, slightly curved casts with some renal opaque epithelial cells adherent. No fatty globules nor any waxy cylinders. Blood corpuscles numeration gives 3,490,000. Weight of the body 152 pounds.

Patient was advised to drink from 8 to 12 glasses of mineral water, to take one bath a day of one hour's duration at 39° Centigr., followed by frictions and kneading, and a hot revulsive douche at 42° Centigr. of five minutes over the lumbar region.

On the 8th day the quantity of albumen is reduced to 1.90 gr. (about 30 grains) in the day, and 1.33 gr. (about 20 grains) in the night's urine. On the 25th day the urine shows but a trace of albumen and contains but a few hyaline casts. Upon departure, July 12th, 37th day of the water cure, the urine is entirely free from albumen and casts. The numeration of blood corpuscles gives 3,900,000. Weight of the body 161 pounds.

The microscopical examination, which was repeated several times during treatment, has shown a disappearance of the casts parallel with the diminution of albumen, until at last, a careful micro-chemical test revealed the absence of both. The quantity of urine, which during treatment was increased to 1700 C. C., has fallen back to 1290 C. C. upon departure; specific gravity=1017 and urea=19 grammes (about 289 grains).

OBSERVATION II.—CASE OF INTERSTITIAL NEPHRITIS.

Mr. R., a merchant, 44 years of age, was prescribed by Dr. Gubler, of Paris, a water course at the Springs of Vittel, where he arrived June 20, 1876. When 29 years of age, patient had an attack of double urethro-orchitis, which has left as a sequela some weakness about the genital organs. His father was subject to gout, and died in epileptiform fits. Mr. R., himself, has been attacked three or four times with articular gout, the last time in May, 1874. During past 4 or 5 years, patient has noticed in his urine a frequent deposit of a yellow-pinkish hue. On January 10, 1876, was laid in bed for a fortnight with erratic pains of the whole body, fever, epistaxis, bronchitis, lumbar pains greater on the right side. His sputa were streaked with blood. Urine was diminished in quantity, highly colored, albuminous and containing few casts, but wholly deprived of its deposit of urates or uric acid. This acute spell subsided gradually, and patient was finally relieved by the appearance in his urine of a copious, brick-colored, sandy deposit. However, he never since enjoyed his ordinary health, and his urine has kept albuminous.

Condition upon arrival at the springs: The skin is dry and branny, appetite poor, thirst normal, digestion torpid and sleep impaired. Patient experiences a very uncomfortable sensation of prickling about the inferior extremities. Slight œdema of the ankles and feet; frequent micturition. Passes 1600 C. C. of a cloudy, acid urine, containing 22 grammes of urea, 1.75 gr. of phosphates, 7 gr. of chlorides, 2 gr. of albumen. Uric acid and urates are diminished. There is a slight hypertrophy of the heart, but no valvular lesion, no palpitations. Respiratory murmur normal. Blood corpuscles=3,600,000. Microscopical examination shows numerous granulo-fatty cyl-

inders, some few hyaline casts, some others dotted over with fine dark granulations. Rare, waxy-like casts.

Patient was directed to drink 12 to 14 glasses of mineral water a day, 1 glass of Pulna water every fourth day, to overcome costiveness. Tepid bath at 37° C., followed by frictions and kneading of the whole body. Hot revulsive douche at 42° C., over the lumbar region.

About the seventh day, albumen began to diminish; on the twentieth day, the quantity was reduced to 0 gr. 80 centigr; on the thirty-seventh day, when patient left the springs, a trace of albumen, some hyaline cylinders and a very few granulo-fatty casts only are to be found upon close research. During the first week of treatment, the quantity of urine passed daily was increased from 1600 C. C. to 2300 C. C. and was heavily loaded with uric acid. General neuropathic symptoms have subsided; the sleep is improved and patient no longer experiences his troublesome cerebral lassitude. Numeration of blood corpuscles gives 4,200,000. Patient has gained 5 pounds and a slight exercise will promote perspiration.

### OBSERVATION III.—CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

Mr. H., aged 38 years, a banker, arrived at La Bourboule Arsenical Thermal Springs, June 26, 1878, sent by his Paris physician, Prof. Chauffard. Has attended him during 4 years. In his letter, after rapidly going over the history of the case, he remarks that Mr. H. was forced to abandon Constantinople in 1874, on account of obstinate intermittent fevers, accompanied with enlargement of the spleen. The type of fever was at first modified by the change of climate, and patient, after 13 months, was entirely free of malarial attacks. His health, notwithstanding, was far from being restored to its normal standard. Patient remained anemic, although iron, quinine and strychnia were administered. Complained of general weakness, of palpitations accompanied with repeated attacks of bronchitis, characterized by intense dyspnœa, mostly nocturnal, and by sputa occasionally tinged with blood. Sleep disturbed by cough and frequent desire to micturate. Urine clear and frothy. A close investigation led Dr. Chauffard to diag-

nose the case as one of incipient parenchymatous nephritis from malarial poisoning. During two years, various treatments were uselessly employed, the disease following a progressive course.

At last Dr. C. decided upon removing his patient from the confined and hot summer atmosphere of Paris, and he was ordered to resort to a water cure, with the hope that the change of climate and the use of arsenical springs would help to rebuild his general constitution and put a check to the pulmonary and renal congestions. Upon arrival at the springs Mr. H. is in the following condition: General appearance is bad, whether this be the result of his journey or not; mucous membranes are unusually pale, the skin is dry and the seat of a marked epithelial desquamation (pityriasis), marked emaciation, patient weighing 137 pounds, waxy appearance of the teguments. Liver and lungs are normal, spleen slightly enlarged. The eyelids are somewhat bloated. Patient is troubled with frequent micturation at night (8 to 10 times). Quantity of daily urine 1410 C. C. specific gravity =1009. Night urine contains 3 gr. 69 centigr., and day urine about 6 gr. 19 centigr. of albumen. Quantity of urea exceedingly small=11 gr. 70 centigr. Phosphates and chlorides are in normal proportions. Microscopical examination shows: numerous and thick crystals of uric acid, granulo-fatty casts with oil globules, numerous narrow cylinders with fine granulations, some broad waxy casts and degenerated epithelial cells with irregularly defind edges. Mr. H. is advised to rest a week before beginning treatment. On the third day, I am called to see him. Patient is laboring under an attack of severe bronchitis, with slight pulmonary œdema. Heart is normal, but rather impulsive. Feet œdematous. Next day the œdema has reached the scrotum; thighs and legs are considerably swollen. Quantity of urine diminished to 900 C. C. Sp. gr.=1014.

Patient feels pretty well on the tenth day of this attack, with the exception of the anasarca of the inferior extremities. The swelling is such that patient's weight has been raised from 137 to 172 pounds. Obtaining no result from purgative plan, advised him to begin at once hydropathic treatment, consisting

in hot air baths—Turkish baths—which were administered for a period of two weeks (one bath every other day). Patient gradually reached a temperature of 176° F. As much as 1200 grammes of water (nearly 2½ pounds) were abstracted from the system in one bath; urine passed in 24 hours, averaging 950 C. C. After the eighth bath, patient was nearly relieved of his anasarca; his weight fell down to 136 pounds, or 1 pound less than he weighed upon arrival.

The hydromineral treatment was then instituted, and patient advised to drink from 2 to 4 glasses of mineral water. Baths at 39° C. were also ordered, and were followed by a hot revulsive douche applied over the splenic and lumbar regions.

This treatment, kept up for a month, brought on a most remarkable improvement. The condition of the patient upon departure, August 18th, that is, 92 days after his arrival, was as follows: Appetite restored; sleep interrupted but once or twice for micturation; patient has made frequent excursions in the mountains with comparative ease; the functions of the skin are normal; no œdema; complexion darker, but still retaining an anæmic taint; only a trace of albumen in the urine. Casts are few in number, broad and granulo-fatty, no waxy cylinders nor any oily globules. Some renal epithelial cells with natural dull tint. The quantity of urea has been raised up to 15 grammes, and amount of urine daily excreted = 1370 C. C. Has gained 15 pounds. Patient left the springs after being advised to sojourn in the south of France or Italy during winter, and to return next summer to the springs.

Had occasion to hear from Mr. H., through his physician. He has wintered at Cannes, and during January has drank the transported waters. Has followed, otherwise, no special treatment, but exercised in the open air. Has had no recurrence of his bronchitic attacks; his general health, which is very good, has allowed him to enjoy ordinary life. His urine still shows a trace of albumen, detectable only with Heller's test. The microscope shows the presence of a few broad granulo-fatty casts, with degenerated epithelial cells.

### OBSERVATION IV.—CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

George Brungard, 27 years of age, entered Charity Hospital March 8, 1879. A year ago, patient then living in Arkansas

was attacked with malarial fever, of a tertian type. In October, after exposure to rain and cold, was seized with rigors, followed by fever, nausea, and pains in the lumbar region, and swelling of the inferior extremities.

Upon admission, patient says he has been unable to leave his bed for the past two months on account of excessive weakness. Mucous membranes and teguments show a waxy hue, face is bloated, appetite impaired, bowels loose. Inferior extremities and scrotum are the seat of considerable serous effusion. Heart normal, but spleen is enlarged. Patient's sleep is often interrupted by cough, due to slight œdema of the lungs.

Patient is put under observation for a few days. The urine is very pale, frothy and acid; average about 2000 C. C. a day, with a sp. gr. of 1007. It contains a large quantity of albumen; 7 gr. 90 cgr. Urea=14 gr. 75 cgr. At the bottom of the jar, there is an opaline deposit of formed elements, which, under the microscope, proves to be composed of small and narrow hyaline casts, with very few granular cylinders, and some renal epithelial cells, with a number of uric acid crystals. Patient was ordered 15 drops of dilute phosphoric acid three times a day, and 10 to 12 glasses of Waukesha water (Crescent Spring). From March 18th to April 28th, microscopical examination and analysis of urine were made daily; from these tabular records, I condense the following: Urine rapidly became neutral, with marked tendency to ammoniacal decomposition after being voided.

March 21st, Day urine=1490 C. C., with sp. gr.=1010.
Night urine=1090 C. C., with sp. gr.=1009.

April 7th, Day urine=600 C. C., with sp. gr.=1018.
Night urine=1240 C. C., with sp. gr.=1009.

Albumen passed in 24 hours=4 gr. 22 centigr.

Microscopical examination shows a few hylaine casts, and renal epithelial cells, with amorphous earthy phosphates.

April 13th, Day urine=400 C. C., sp. gr.=1022.
Night urine=879 C. C., sp. gr.=1011.

No casts, and but a few renal epithelial cells and amorphous phosphates.

April 26th, Day urine=700 C. C., sp. gr.=1018.
Night urine=900 C. C., sp. gr.=1012.

Quantity of albumen in 24 hours=2 gr. 29 centigr.

Microscopical examination shows a complete absence of casts. Urea=18.10 gr. During the time (38 days) patient has been under treatment, he has had five attacks of malarial fever, for which quinine was administered. The fever seemed to have no other effect on the urine except in diminishing its quantity and deepening its color. Notwithstanding this, general condition of patient steadily improved, appetite increased. Bowels have become regular and digestion is normal. All liquid effusion has been removed. His complexion looks healthier, and auscultation reveals no abnormal sounds. Patient has been able during the last two weeks to assist the nurse of the ward in the discharge of his duties. Was last seen on May 14th. Has had another attack of fever, but his general condition continues very good. Quantity of urine about normal, so are its reaction and color. No casts, but still contains about two grammes of albumen. Urea=17.80 gr.

I will now be permitted to draw some conclusions, which seem to me justified by the study of these observations.

1st. There is a marked diminution of the albuminuria as a consequence of the diuresis produced by the use of calcic mineral waters. The renal congestion, instead of being exaggerated, has on the contrary been diminished by this diuretic influence. This result corroborates the statement of Cl. Bernard, based on actual experiment, namely: the disgorgement of glands by increased functional activity. In observation No. 3, arsenical waters having no marked effect on diuresis, we have to look elsewhere to explain their efficacy. The explanation lies, I think, in the undoubted properties of arsenic to diminish congestion by its influence on the vaso-motor nerves. We all know the good results attained with arsenic in the treatment of congestive headache, neuralgia, pulmonary congestion, etc. Besides this explanation, arsenic seemed to have filled a precise indication furnished by the fact of previous malarial intoxication, and the use of hot air baths by stimulating the functions of the skin to their utmost capacity, certainly had the effect of diminishing the tension of the blood in the renal blood-vessels.

2d. In all four observations the diminution of the quantity

of albumen has been progressive and very nearly parallel with the diminution of the gravity of casts and epithelium of renal origin. I will remark also that, as the worst form of cylinders disappeared or were modified, there seemed to have been a species of substitution of hyaline casts.

3d. The general health and strength of these four patients were remarkably improved by this course of treatment. The numeration of blood corpuscles was resorted to in two instances, and showed a marked increase. Corresponding to this an increase in weight, ranging from five to fifteen pounds was also obtained, except in case 4, where this observation was neglected for want of scales.

I feel consequently justified in saying that the treatment has fulfilled what should be considered the principal indications in Bright's diseases, viz:

1st. To uphold the constitution and rebuild the impoverished general conditions.

2d. To diminish, if not to suppress, the congestion of the kidneys.

3d. To clear and if possible modify the tubuli uriniferi.

Before closing, allow me to direct your attention to the influence gout holds in the production of interstitial nephritis. It is such that the gouty kidney is, with English writers, synonimous with contracted kidney. This etiological influence is well exemplified by Case No. II. It is in those cases that the calcic waters of Vittel in France, Wildungen in Germany, Capon and Poland in this country, will prove efficacious. Those of Buffalo and the Waukesha Crescent Springs containing, in addition, bi-carbonate of lithia, are specially indicated. Their first effect is to render the urine alkaline, and then to favor the elimination of uric acid—accumulated in the blood—under the form of urate of lithia, the most readily soluble combination of uric acid. It frequently occurs, when, in gout, or in Bright's diseases, the urinary secretion is scanty, that uric acid, and even urate of soda, will be deposited in the tubuli uriniferi, in the shape of what Rayer has termed, microscopic gravel. In these

cases, these diuretic calcic and lithia mineral waters, filtering rapidly and in abundance through the kidneys, will have a sort of lixiviating result, and thus favor the solution of these infarctions, open and keep free the tubuli uriniferi. It is useless to insist upon this beneficial effect, for in a contracted or gouty kidney, it is preparing the way for uræmic poisoning, not to avail ourselves of every possible means to prevent those tubuli, which are still sound, and through which the urea, uric acid, and extractive matters are excreted, from being blocked and clogged by this microscopical gravel.

I will lastly recall the influence of chronic malarial poisoning in the etiology of Bright's diseases. Case No. III and No. IV exemplifies this point, and, although I have had this winter, in my wards of the Charity Hospital, three cases of chronic parenchymatous nephritis, in which the disease was clearly attributable to malaria, I am not prepared as yet to assert that, in the majority of such cases, we will be more apt to meet with parenchymatous than with interstitial nephritis.

In those cases we will have to administer quinine, even if the patient is free from paroxysm. But when it has led to undoubted disorder of the kidney, we will, I think, find in arsenic, hydropathy, mineral springs, with change of climate, modificators which will act in a more direct manner upon the lesion, provided, of course, it be not too far advanced.

If Bright's diseases present themselves in a decided scrofulous constitution, we may with advantage advise a course of treatment by the saline alkaline and iodo-bromine waters, as Kreutznach, Hombourg, Darkheim in Germany, Solies, Brides in France, Saxon in Switzerland, and St. Catherine's Wells and Caledonia Springs in this country. If, on the other hand, our patient is subject to rheumatism, or has had syphilis, if the kidneys are but recently involved, and we believe rheumatism or syphilis has had an etiological influence, we will then find in thermal waters, of the indeterminate class, as Hot Springs of Arkansas, or of the sulphur class, as those of Virginia, a valuable adjuvant.

# Current Medical Literature.

## THE CURE OF HÆMORRHOIDS BY THE HYPODERMIC SYRINGE.

By Edmund Andrews, A.M., M.D., Prof. of Surgery in the Chicago Medical College.

In a former number of this journal, I published the secret method of certain itinerant "Pile Doctors," and asked for information from all physicians who had any knowledge of the practical results of the treatment. This request, supplemented by other inquiries, has brought me responses from about 300 physicians, and given me more or less knowledge of the results of over 3300 cases treated by the new method. From the material thus collected I am able to present the following history:

In the year 1871, there lived in the village of Clinton, Ill., a physician named Mitchell. His practice being small, he employed his superabundant leisure in planning a new treatment for hæmorrhoids. He was a good thinker, and soon conceived the idea of charging a hypodermic syringe with equal parts of carbolic acid and olive oil, and injecting the contents into the hæmorrhoidal tumors. He also devised another and totally different plan, which was to take two large needles with triangular points, like those used by saddlers, and then to pick the piles to pieces little by little with the needles. Mitchell himself is said to prefer the needle operation, and several others have adopted it from him, but the plan of injections has proved by far the most popular with others, and has recruited, in a quiet way, a surprising number of operators. The secret was sold from man to man, and the price and enthusiasm rose simultaneously. "State and county rights" to practice it, were vended at high rates, reaching in one instance the sum of $3000. Regular physicians abandoned their practice, and even mortgaged their property for money with which to buy the secret, and set themselves up as itinerants, while ignorant laymen joined in the rush until they filled the whole West with their clamor, and at last whitened the sands of the Pacific shores with their hand-bills.

The chief managers of the business settle in the larger towns in the winter, where they advertise and practice, but as spring advances to the time when the wild geese begin to fly, they feel the migratory instinct, and go from place to place, selling the secret to all who will buy it, and operating meanwhile on the people of the farms and villages. In this way they have treated more than 10,000 patients in the States west of the Alleghany mountains. A secret so extensively sold always gets out. Three years ago I discovered and published it, thus putting a check on the business of selling, and induced large

numbers of the regular profession to try the plan among their patients. These physicians have furnished me my best information, but I also opened communication with the principal itinerants themselves, and induced several of them to come out frankly and tell what they knew, and by checking one statement against another, was able to sift out pretty well the few attempts at deception.

Mitchell's original plans have excited widely extended thought and experimentation among his followers, so that his two methods have branched out into numerous varieties. The original injection seems to have consisted of equal parts of crystalized carbolic acid and olive oil. The operator exposes the piles to view, and smears the anus with an ointment to prevent smarting in case the fluid should chance to drop; he then takes a sharp-pointed hypodermic syringe, charged with the carbolized liquid, and slowly throws a few drops into one of the piles. The pipe is left in the puncture a few moments to prevent the fluid from running out, and to allow it to become fixed in the tissue. The pile turns white, and in the most successful cases withers away without pain, suppuration or sloughing. Only one pile is treated at a time, and about a week is allowed between the sessions, until all are cured. The itinerants often advertise their method as "painless," but as a matter of fact only about one patient in four gets anything like exemption from pain. Most of them suffer a sharp temporary smarting, and a few have a terrible and prolonged agony. The majority are cured, however, without interrupting their business.

The original plan has sprouted into numerous varieties. Instead of using olive oil as the excipient, many use glycerine. Then every operator has his favorite degree of strength. Several claim that the stronger the fluid the better it is, and actually inject crystals of carbolic acid melted by heat, while others use mixtures varying in strength all the way down the scale, until we find Dr. Weir, of New York, experimenting with one part of acid to 20 or 30 parts of the solvent. The dose injected varies in like manner. Some advocate great caution, and only put in from one to three drops, while others cram the pile with a syringe full, and seek to make it suppurate or slough. I find two men using creosote instead of carbolic acid, and several add anodynes, such as morphine, chloral or iodoform. Ergotine is also a favorite injection, and a great number of mixed formulæ have been imparted to me, some of them containing five or six ingredients. Mr. Colles, of Dublin, injects muriated tincture of iron. Dr. Hill, of Bloomington, Ill., and Dr. Drake, of Hastings, Mich., use the iron per-sulphate, while others have tried tannin, chromic acid, tincture of iodine, etc. One itinerant, who writes in a straightforward, manly tone, says that he has experimented on almost every coagulating agent in the vegetable and mineral kingdoms. His preference is for the strongest carbolic acid. He

adds the following remarks: "The difficulty with all remedies except carbolic acid is the suppuration being limited to a small portion of the tumor, or, like the preparations of iron, causing it to swell and become very painful. Carbolic acid is, so to speak, used up in cooking the blood throughout the entire tumor. The appearance of the pile in from five to twenty seconds shows such to be the fact. Suppuration takes place in three or four days, with sloughing. No danger of hæmorrhage."

The results of these various methods of treatment may be summed up as follows: In the first place the needle operation has never become a favorite. I can learn of only five persons who make much use of it. The following case was probably treated in that way. The patient, a plethoric man of 45 years, went to a quack in Chicago, and as a result, a varicose hæmorrhoidal vein was widely opened. He says the blood gushed out freely, but after some trouble was arrested through the application of means not clearly understood by him. He then returned home in great agony; and sent for his family physician, who in turn called me in council. The family physician took off sundry cloths and compresses, and found a large opening in a vein plugged with a vial cork. The quack, I presume, tore open the thin walls of a dilated vein, and being driven to his wits' end by the gush of blood, finally concluded to cork up his patient like a demijohn.

My informants agree that the injection method seldom fails to cure the disease, but they report some serious disasters. The writers know of about 3304 cases treated in their vicinities by these methods, and though they cannot always give exact numbers and details, yet the circumstances are such that a case of rapid death from the treatment could not be concealed, though minor troubles, such as pain, sloughing, etc., might frequently escape their notice. It is probable, therefore, that the list of deaths is pretty complete, while the figures giving the minor accidents are too small.

List of Accidents.

| | |
|---|---|
| Deaths | 9 |
| Embolism of the liver (suspected) | 8 |
| Very dangerous hæmorrhage | 5 |
| Less dangerous hæmorrhage | 5 |
| Carbolic acid poisoning (recovered) | 1 |
| Sloughing (generally, but not always confined to the piles) | 23 |
| Abcess (of the liver) | 1 |
| Severe inflammation | 10 |
| Violent pain | 83 |
| Stricture of the rectum | 2 |
| Permanent impotence | 1 |
| Long sickness (2 weeks to 6 months) | 6 |
| Relapsed | 7 |
| Failed of cure of piles | 11 |
| Sundry other accidents | 12 |
| 6 | 184 |

Cases of sloughing and suppuration of the piles, are innumerable. Some itinerants use strong injections with the express purpose of producing these results, deeming that the plan of causing them to atrophy without suppuration lacks certainty and permanence.

The list shows that, while the deaths are so few that the risk is no greater than in other modes of treatment, yet the minor accidents are very numerous. The imperfection of the reports renders a thorough study of the accidents impossible, but the following information has been gleaned: One of the deaths was caused by inflammation, followed by immense abscesses, erysipelas and pyæmia. The patient died on the fifth day.

Another death apparently resulted from embolism of the liver. That viscus nearly ceased its function; the stools were light colored and scanty, the skin yellow, and all the lymphatic glands of the groin, axillæ, and neck became enlarged. A full dose of calomel always brought temporary improvement, but no permanent benefit. The patient lingered long, and died unrelieved, about one hundred days after the operation. The next fatal case was that of a man 84 years of age. The person who injected the pile, said it was "very large and very deeply seated." It was suspected that he mistook the enlarged prostate for a hæmorrhoid. Be that as it may, the patient was attacked with violent pain and retention of urine, and though relieved by the catheter, died on the third day. There is no proof, however, that the prostate was injected, nor that it would be fatal if it were.

The fourth death was also attributed to injecting the prostate, but no symptoms are given.

The five remaining deaths are so vaguely reported that I am unable to give any particulars about them. It is possible that three of the reports refer to the same patient, and ought to be counted as one, in which case the whole number of deaths is only seven. This number of fatal results in 3300 cases, treated often in the most reckless and ignorant manner, is certainly not large, and tends to show that the injection method is as safe as any other, so far as life is concerned.

The same relative immunity appears respecting hæmorrhage. Five dangerous cases of it are reported, but in most, if not all of them, it occurred from the foolhardy practice of allowing the patient to take long rides and walks when he should have been in bed; but even with all this imprudence the hæmorrhagic cases are fewer than occur after the use of the clamp and the ligature. Allingham reports more instances of hæmorrhage after his favorite operation, the ligature, than I can find among all these cases of injection.

The chief objection of the profession to this operation, has been the fear of embolism. The two lower pairs of hæmorrhoidal veins send their blood by the route of the internal iliacs to the heart, but they are small, while the upper pair is much larger, and carries the great mass of the blood of the hæmor

rhoidal plexus to the liver, hence we should expect that embolism, if it occurred at all, would be of the latter organ. The facts agree with the indications of the anatomy, for not a single case is reported of a sudden death, such as would proceed from clots swept to the heart and lungs, but there are eight instances of suspected embolism of the liver; only one of them died, and there was no post-mortem examination, so that possible proof is wanting.

The first is the fatal case of liver trouble already described. The second was marked by an abscess of the liver, but the patient recovered. In the third case the patient was attacked one hour after the injection with severe pain in the liver. After some time the pain was relieved, and no further trouble followed, but the physician feared to repeat the injection.

In the remaining cases it is simply reported to me that the patients, after operation, were attacked with disease of the liver, but did not die; no particulars were given. It is probable that in a portion of the cases the liver disease pre existed, and was the cause of the piles and not the consequence of the operation. On the whole, there does not appear to be any decided danger of embolism, if the case is carefully handled. I may mention here, that Dr. Whitmire, of Metamore, Ill., practices tamponing the upper part of the rectum for 24 hours, to prevent any emboli from moving in that direction.

Sloughing and suppuration of the piles generally follows large and concentrated injections, but not the small and dilute ones. A few cases only of extensive abscesses have occurred.

The most frequent of all accidents is the occurrence of severe pain. The verge of the anus is extremely sensitive, and injections put in near that circle are liable to produce fearful distress, but above the verge, the sensibility rapidly diminishes, so that much less suffering is entailed by the injection of internal piles. In about one fourth of the patients, the pain is very slight. Dr. Weir, of New York, injected two series of patients, one with strong, and the other with weak carbolized solutions, using in the latter only one part of carbolic acid to ten, twenty or thirty of the excipient. He found that the pain and the abscesses followed the use of the strong injections, but were escaped when weaker ones were employed.

The remaining accidents in the list are not peculiar to this operation, nor greater in number than occur in other methods. The operation was a new one, and its conditions of safety were unknown. When we consider that many of the operators were ignorant blockheads, with no qualifications for the business except a bottle of carbolic acid and a hypodermic syringe, and with no idea of efficiency but to distend the hæmorrhoidal plexus with all the liquid caustic they could get into it, we shall not be surprised at discovering a few deaths and a number of minor accidents. Had the method itself not been an unusually safe one, they would certainly have slaughtered their scores of victims, for the difference is world-wide betwe.. their

ignorant injecting, and cautious, scientific surgery. If the following rules be observed, I believe that the method of treatment by hypodermic injection will be less painful than any other, and equally safe:

1. Inject only internal piles.
2. Use diluted forms of the remedy at first and stronger ones only when these fail.
3. Treat one pile at a time, and allow from four to ten days between the operations.
4. Inject from one to six drops, having smeared the membranes with cosmoline to guard against dripping. Inject very slowly and keep the pipe in place a few moments to allow the fluid to become fixed in the tissues.
5. Confine the patient to bed the first day, and also subsequently if any severe symptoms appear. Prohibit any but very moderate exercise during the treatment.

Under all treatments, as well as when left without treatment, piles are subject to possible hæmorrhage. Allingham gives the following method of applying the tampon, where the bleeding vessel cannot be found promptly, and controlled by other means: He takes a good-sized sponge and fastens a strong double string through its centre. (He prefers a bell-shaped sponge inserted with the open end downward.) Having pushed the sponge up the rectum some inches beyond the bleeding point, he fills the parts below with cotton dusted with powdered alum or persulphate of iron, and ties a stick across the finished tampon with the double string. By turning the stick like the handle of a gimblet, he twists and tightens the string, forcing the tampon firmly up against the sponge and causing it to spread laterally and compress the bleeding vessels. He advises the insertion of a large catheter with the tampon, to give exit to the flatus. By the help of opiates the tampon is often tolerated several days.

My final conclusion is that the wild itinerants of the prairies have really made a valuable contribution to scientific knowledge, and that the cautious injection of hæmorrhoids with carbolized solutions will remain as one of the permanent operations of surgery.—*Chicago Medical Journal and Examiner.*

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## GASTROTOMY.

The operation for making a permanent opening into the stomach, called gastrotomy, done to prolong life and relieve the agony of patients suffering from closure of the œsophagus as the result of disease, or the mere opening of it for the removal of foreign bodies, is recommended as a proper surgical procedure, and has been done a number of times—still, to Mr. Howse, of Guy's Hospital, is certainly due the credit of demonstrating its absolute feasibility, comparative safety and evident necessity.

Mr. Howse considers that the uniformly successful result

following his efforts so far is mainly due to the special method of procedure which he has followed in all his cases: this manner of operating accomplishes perfectly the very desideratum which Prof. Freer deemed so necessary and urgently advised. The first part of the operation is devoted to and done with the intention of securing a firm, wide attachment of the stomach to the abdominal walls This consists in fastening the two together by ligatures introduced in a special manner and leaving them so attached for five or six days, which is long enough, according to Mr. Howse's experience, to develop firm union; after which the stomach itself is opened. In none of these cases was there any undue inflammation or any other interference with the progress of the case to recovery. The fistula is completed by opening the stomach through the lips of the abdomino-gastric junction—a proper gum elastic tube is introduced into the cavity of the viscus and retained there by strapping, and through this tube the patient can be fed without discomfort or trouble.

Mr. Howse naturally expresses the hope, encouraged as he is by his successes, following the operation, that this procedure will be earlier resorted to in the class of cases for which it is oftenest done—epithelioma of the œsophagus, and in addition that it will come to be looked upon as a necessary and accepted course of treatment in cases of traumatic occlusion or specific stricture. Up to the present time five operations have been done by him, four for closure of the œsophagus by epithelioma and one for traumatic stricture.

Of those done for epithelioma, one lived seven months after the operation and finally died from extension of the cancerous disease to surrounding vital organs. During this long period the patient was entirely free from the agonizing distress incidental to slow starvation—feeding herself comfortably and easily through the tube or external œsophagus. I might even justly say that the feeding was not robbed of enjoyment, for the patient masticated her food and then introduced it into the stomach through the tube. Two others, operated upon for the same disease, lived for weeks and months respectively, and died from epithelioma of the lungs, each deriving benefit from the operation. The fourth one died from renal coma a few days subsequent to the operation. In none of them was there the least discomfort arising from the operation, and the pathological specimens of each case, now preserved in the museum, demonstrate positively that in neither case was there any peritonitis developed from the interference, as is shown by the entire absence of any adhesions other than those sought for and obtained between the stomach and abdominal walls.

Through Mr. Howse's courtesy and kindness to me, I witnessed the operation in the fifth case, and have seen the patient several times during the several weeks following the operation, and can bear witness to the comfortable condition of the patient, the relief afforded her, and to the absolute absence of any local

trouble from the wound. The patient had swallowed a quantity of muriatic acid with suicidal intentions some months ago, and as a consequence of this act, stricture of the œsophagus had gradually developed, defying and resenting all efforts at dilatation. Any such like attempts at relief were followed by severe bleeding and other bad signs, sufficient to make the efforts dangerous. Mr. Howse did the operation partly to avoid expected emaciation from inability to swallow, but mainly to put the parts above absolutely at rest for months, so that all granulating surfaces might become healed over and toleration of dilating instruments follow. If this result came about, well and good; if not, then the patient could live quite comfortably with the new mouth to her stomach—digestion, apparently, being very little affected by the new way of taking food. An oblique incision was made, about 9 Cm. long, parallel to the cartilaginous margin of the chest on the left side, in the epigastric region, far enough away from the cartilage to allow of room for the application of the outside row of stitches used to fasten the stomach to the abdominal walls, and carried down to the rectus abdominis muscle, the fibres of which were the landmark as to position. The under layer of its sheath is the indication of close proximity to the peritoneum. All bleeding vessels were controlled with catgut ligatures. The peritoneum was then carefully opened and the anterior wall of the stomach sought for. Mr. Howse gives three means of recognizing this organ. The mistake of opening the transverse colon has been made, but according to him such an accident should never happen. 1st, the walls of the stomach are much thicker than those of any intestine; 2d, the color is lighter, and there are no longitudinal fibres; 3d, the two layers of the omentum, passing from the stomach to the colon, can be easily recognized. Having reached the stomach, the next step is to stitch it to the abdominal walls, and in this consists the essential part of the operation, and this part must be carefully and accurately done. He employs two rows of sutures. The first introduced at intervals of 1 Cm. from each other all around the margin of the external wound, fully 3½ Cm. from that margin. The second joins the stomach to the edges of the incision, leaving about 1 Cm. of its surface exposed in the wound, as its edges are subsequently drawn together. In passing all of the sutures into the walls of the stomach, great care is taken to prevent the needle entering the cavity of that organ. Great stress is laid upon this matter, for if they do enter, fatal peritonitis is sure to follow upon the escape of gas or other matters through even these slight wounds. With the greatest impunity and entire absence of any dread of doing harm, the stomach walls are grasped by the fingers at the points chosen for the introduction of the needle, and in this way the operator absolutely assures himself that only the peritoneal covering and a portion of the muscular coat is pierced by the needle or included in the ligature. Perhaps a quarter of an inch of tissue is taken up in the grasp of each suture. Of course the needle

is first passed through the entire thickness of the abdominal walls at the proper distance from the edge of the entrance wound, then through the stomach with the care specified, then out through the external coverings of the body again, and finally the two ends are tied over a piece of catheter; to give breadth of contact between the two parts and to prevent puckering. All the sutures of the outer row were thus carefully introduced until the entire circuit of the external wound was made; catgut was used for these sutures. The edges of the external wound were then united to the stomach in the same careful manner, and finally the wound itself was closed almost entirely by sutures. A silver ligature was introduced into the walls of the stomach, to indicate the point at which the knife should be introduced into it, to complete the fistula after sufficient time had elapsed, to be sure that the adhesions desired were sufficiently firm. In all the five cases operated upon, this final opening was safely made; the post-mortem examination in those who died showing the union complete and perfect. The feeding tube is then introduced, and all is well. Mr. Howse is a firm believer in the benefits of Mr. Lister's antiseptic dressing, and carries out that method of treatment in all operations, and to its great aid gives the credit of the safety after this rather formidable operation. One of Mr. Howse's colleagues at Guy's, has done the operation twice; once for epithelioma, and once for syphilitic stricture. The first of these died in a few days from general prostration, the operation being done after the old plan, such as is followed in colotomy. The second was done with all the care so earnestly insisted upon and followed out by Mr. Howse, and is now living comfortably with the fistula completely established, five months after the operation. So a great deal of credit must be accorded to the *method* of doing the operation.—Parkes, *Chicago Medical Journal and Examiner.*

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## NOTES ON OBSTETRIC PRACTICE IN SIAM.

By SAMUEL R. HOUSE, M. D.

The Siamese Twins, on one of their tours of exhibition through the country many years ago, paid a visit to the Hartford Asylum for the Deaf and Dumb. The writer not long after, visiting the institution, was introduced to the pupils as a medical missionary about returning to his work in Siam. While all seemed to comprehend where he was going and on what errand, one bright looking lad was observed to talk very earnestly in the sign language to his instructor, ending all by putting his two thumbs together very significantly. The only response from his teacher, himself a mute, was an immoderate fit of laughter. When he could command himself sufficiently, he wrote on the slate "the boys ask whether all the people in Siam are born twins?" He had simply made too broad a generalization, though the old motto reads, '*ab uno disce omnes.*'

Still, how people come into the world in that remote land, is a subject that may prove not without interest even to medical men.

Obstetric practice in Siam, as will be conjectured, is of the rudest kind. Were all left to unassisted nature, mother and child might fare better, but not a little "meddlesome midwifery" is resorted to, and one strange custom is universally prevalent, as abhorrent to good sense as it is to humanity.

Elderly women are their chief dependence on these occasions, and they are as officious and as wise in their own conceit as "experienced nurses" in more civilized communities are apt to be. Male practitioners are summoned only in exceptional cases. Utterly ignorant as these are of anatomy and of the nature of the process of parturition, and holding as they do that all delays and obstructions are caused by demoniacal interference, their practice consists much of it in incantations and exorcisms and in rudest methods to hasten expulsion. A favorite way to expedite matters is to press with great force on the abdomen and its contents—shampooing vigorously with thumbs and fists. They even stand with bare feet upon the poor woman's body, crowding the heel upon the front or sides of the distended uterus, and all without the slightest reference to, or knowledge of the condition of the os uteri. The writer has seen a large proas abscess produced by the violence used on such an occasion.

Is the patient feverish and restless? the doctor fills her mouth with perfumed water over which a charm has been muttered, and spirts it dexterously in a fine and not unrefreshing spray, over the all but naked body of the sufferer—bidding at the same time the evil spirit to begone. If the same peremptory order were given to the many sympathising female friends who crowd the little room and keep up a loud and incessant chattering, more good might result.

Does the labor prove still tedious? a large brass bowl is procured, a long wax taper is lighted and fastened in the bottom of it by a few drops of the melted wax, silver coins to the amount of ninety cents (which are to revert to the doctor as the invariable fee for this service) are stuck on the sides of the candle, and the bowl is filled up with uncooked rice, on which some coarse salt, dried peppers, etc., are thrown, and over this, with hands laid palm to palm and bowed head, an incantation is addressed to the invisible powers which have control over the malicious demons that are hindering the birth of the child.

Meanwhile, for any bad symptoms that may arise, medicines are administered in accordance with their simple theory of pathology and therapeutics, that all disturbances of the system are produced by undue preponderance of one of the four elements—fire, wind, earth or water. As a specimen of their prescriptions, the following may answer. It was made by the Court physician in the presence of the writer, for a lady of high rank, at the time of her confinement. Rub together shav-

ings of sapan wood, rhinoceros' blood, tiger's milk (a white deposit found on certain leaves in the forests), and the cast-off skins of spiders.

But at last the delivery is accomplished. Then a scene of confusion begins; one rushes out for salt, another for warm water and an earthern basin to wash the child, a third with frantic haste brings for the mother's comfort an earthen tray full of firebrands, snatched up from the kitchen-fire, which soon filled the room with a blinding smoke. Meanwhile, a piece of split bamboo is looked up, from which a rude knife is fashioned, and with this the umbilical cord is cut or rather sawed through, for with nothing metallic may the cord be severed under any circumstances. Since they never tie the cord, this is not bad practice, as by it liability to bleeding is prevented. An old earthen jar is now found to receive the placenta, which with two or three handfuls of coarse salt thrown upon it is then buried somewhere in the garden, averting thus evil that would otherwise befall mother and child.

Next the child is washed and laid on a soft pillow, around which to protect from drafts and mosquitoes, a close curtain is extemporized by using the three yard piece of printed muslin that constitutes a Siamese dress. From the very first day, babes in Siam are fed with honey and rice water, and have the soft pulp of bananas crammed into their little mouths.

And now with the mother begins a month of penance, exposure to true purgatorial fires. It is inground into the native female mind in Siam, that the most direful consequences to both mother and child will ensue, unless for thirty days after the birth of her first child (a period diminished five days at each subsequent birth) she exposes her naked abdomen and back to the heat of a blazing fire, not two feet distant from her, kept up incessantly day and night.

From this curious Siamese custom of "lying by the fire," this cruel addition to the unavoidable trials of woman in childbirth, none in palace or bamboo hut dare to exempt themselves. No superstition has greater hold upon them or more terrifies them with fear of coming evil if they fail to comply with it.

And their medical science bolsters up the custom, by teaching that after the birth of the child there is always a diminution of the fire element in the system tending to produce stagnation, a flabby state of the uterus, bad humors in the blood, a bad quality of the milk and other unknown and terrible dangers to parent and offspring, from which this free external application of heat alone can deliver them. They think, too, the due quantity, quality and proper duration of the lochial discharge depends on this exposure to the fire. Vain is it to tell them of the mothers in other countries who receive no detriment from their dispensing with such a usage. They are sure Siamese women require it, and they confirm their faith in this practice by pointing to the wives of European residents,

who, it must be confessed, owing, of course, to the prostrating heat of that tropical climate, do not generally rally very well after child-bearing.

The manner of conducting this slow self-torture is as follows: A fire-place is brought in, or extemporized on the floor of the lying-in chamber by having a flat box or a simple rectangular framework of planks or trunks of banana trees, some three feet by four, filled in with earth to the depth of six inches. On this the fire is built with sticks of wood nearly or quite as large as one's wrist. By the side of this oblong frame and in contact with it, raised to the level of the fire, a piece of board six or seven feet in length is placed, and on a coarse mat spread upon this, or on the bare plank itself, the unfortunate woman lies, with bare back and limbs, quite nude indeed, save a narrow strip of cloth about her hips, with nothing else to screen her from a fire hot enough to roast a duck. There, acting as her own turnspit, she exposes front and back to this excessive heat; an experience not to be coveted in any land, but in that burning clime of perpetual summer, a fiery trial indeed.

The husband or nurse is ever hard by, like her evil genius, to stir up and replenish the fire by night and by day. True, if it blazes up too fiercely for flesh and blood to endure, there is at hand a basin containing water, and a small mop with which to sprinkle it on the flames and keep them in check. For the escape of the smoke no provision is made, for chimneys are unknown in Siamese kitchens even. It ought to be added that hot water alone is allowed to quench the patient's thirst.

Of all the strange customs of that strange people, the writer, during his thirty years' sojourn among them, found none more barbarous—more unreasonable. He well remembers the honest indignation he felt when first he witnessed it, and learned the obstinacy of their senseless prejudices respecting it. He had been sent for to treat a woman suffering with inflammation of the breast, and found the poor creature, though in a high fever, lying so near a hot fire, made with half a dozen blazing firebrands, that his face was fairly scorched as he approached her to note the pulse, while the smoke that filled the close apartment blinded his eyes. At another time, visiting a native lady of lighter complexion than usual, who had been for some days exposed to this treatment, he was startled with the appearance of the surface of the abdomen, which resembled that of a porker just roasted, and done, too, to a crisp. This encrustation proved to be, however, an eczematous eruption, produced of course by the extreme heat. On another occasion, called to see a woman who "*u fai mai dai*" (could not endure the fire), she was found, with burning skin and bounding pulse, so near a furious fire that her back had become so hot that the hand could hardly bear it. All remonstrances with her three female tormentors proving vain, and declining to treat the patient unless the fire was at once removed, he left. The next morning,

curious to watch the case, he called again, but finding all cleared up, no vestige of fireplace or fire or patient either, he thought at first he had mistaken the house. On inquiry he learned, what was not very strange, that the subject of this high pressure treatment had had a fit, foamed at the mouth, and died and was already buried. *Buried*, because those whose lack of merit causes them to die in child-birth are *buried*, not cremated, as is the rule with nearly all others who die in Siam.

When and with whom this truly heathenish practice originated is unknown, but it is a custom universal in that land, and probably throughout the entire peninsular of Indo-China, for the women of all the various races resident at Bangkok, not only the Siamese, but the Laos, the Burmese, the Peguans, Malays, Anamites and Cambodians, practice it. The women of this last race, indeed, improve upon the discomfort experienced by those of other nationalities, for they plant their couch of repose, the bench of bamboo slats on which they lie, not alongside of, but actually directly *over* the fire, so that the smoke and heat ascending can do their full work, and they see their thirty days and nights drag slowly along, broiling on this Montezuma bed of misery. Cambodia, once the leading nation of Farther India, as its recently discovered wonderful ruins of stone palaces and temples attest, has been nearly depopulated. Need we wonder when such an atrocious attack upon the life of its inhabitants at the very fountain head has been going on so long?

His late Majesty, Maha Mongkut, the enlightened father of the intelligent young king now on the throne, admitted the superiority of our Western obstetric practice, and would gladly have abolished this absurd and injurious custom of his people. When he succeeded to the throne in 1851, after spending twenty seven years in the celibacy required of the Buddhist priesthood, and children began to be born to him in his well stocked harem, he made some attempts in this direction. Upon the birth of the first of the eighty-one children begotten by him during his seventeen years' reign, the writer was summoned, in consultation with an older medical missionary, to the royal palace.

As that was the first occasion when a foreign physician was ever admitted within the forbidden precincts of the royal harem, a detailed account of it may prove of interest. Dr. Bradley had been sent for in the morning, and found the lady, who had given birth to a princess five days before, doing the usual penance of lying before a hot fire on a hard board, with the window shutters of the apartment all closed, suffering from fever greatly aggravated by the heat and smoke. Representing the urgency of the case to his Majesty, he obtained prompt and full permission to treat the patient as he thought proper.

The fire was at once of course removed, the window-shutters thrown open, the patient transferred to a comfortable mattress and cool water freely used with some simple medicinal treat-

ment. On Dr. B.'s return to the palace in the evening, the writer, at the King's request, accompanied him. Passing the guard at the outer gate, at the inner a parley ensued, the gate was then unlocked and women attendants with torches took us in charge, one going before, another to prevent straggling bringing up the rear. The torch-glare showed us we were now in quite a well-built town, with paved streets, grand halls, a bazaar, a temple and many separate tiled-roof dwellings, gardens and tanks.

Turning several corners, we came at last to the substantial brick residence of the lady patient. Admitted to her apartments we found a white canopy suspended from the centre of the ceiling, under which the young princess was slumbering on a more elevated couch than the mother, in whose veins flowed no royal blood. All around the room, as in all Siamese houses at such times, a cotton yarn was stretched to which were fastened papers bearing cabalistic figures, one for each of the four walls, to keep off evil spirits from the mother and child.

The patient was doing well, and out of danger evidently. At eleven o'clock the chief of the Royal Physicians joined us, a prince, half brother to the King. After another visit to the patient's apartments and finding everything as favorable as we could wish, about midnight we proposed going home. "Oh! going home is out of the question," said the prince-doctor. "How will you get out? the gates are locked and sealed, and the keys are sent in to the King. Happen what will, you cannot get out now," and so we made the best of it till morning, sleeping some and talking more. But it was a strange place for foreign physicians to pass the night, and know that 3,000 women, and women only, were slumbering around them. And it was an unprecedented event too, in the history of the kingdom.

In a few days a convalescence was established and a messenger came to Dr. B. from the King, bearing a purse of silver and an autograph note in the King's peculiar English, which is worth transcribing.

ROYAL HALL.

MY DEAR SIR:

My mind is indeed full of much gratitude to you for your skill and some expense of medicine in most valuable favor to my dear lady, the mother of my little infant daughter, by saving her life from approaching death.

I cannot hesitate longer than perceiving that she was undoubtedly saved.

I beg, therefore, your kind acceptance of 200 ticals for Dr. D. B. Bradley, who was the curer of her, and 40 ticals for Dr. S. R. House, who has some trouble in his assistance, for being your grateful reward.

I trust previously the manner of curing in the obstetric of America and Europe, but am sorry to say I could not get the same lady to believe before her approaching death because her kindred were many more who lead her according to their custom. Your present curing, however, was just now most wonderful in this palace.

I beg to remain your faithful well wisher,

S. P. P. M. MONGKUT,
The King of Siam.

But custom is omnipotent in the East, and it proved too much for even an absolutely despotic king to overcome. There is no reason to suppose this lady in her subsequent confinements dispensed with the broiling process. The queen herself, who, the ensuing year gave birth to a prince, lay by the fire from choice, though suffering at the time with a grave disease which eventually caused her death.

In some instances those in the employ of the missionaries and living on their premises, have been prevailed upon to dispense with this baptism of fire, but these same mothers in subsequent confinements when living among their own people yielded to the force of universal custom. Indeed, had they not conformed to it, they could have secured no native attendance in the trying hour.

The missionary ladies at Petchaburi, startled by the sad fact of the death when but eight or nine days old, of three out of six or seven born in their immediate neighborhood, succeeded after long persuasion in inducing a married Christian woman to try their way when her next child was to be born. But she undertook it from a sense of Christian duty, in the spirit of a martyr. "It is a dark road and full of fear," she said, "but I will trust in God. If he lets me die, all will be right, many women die also by the fire, but if I do not die I will always be glad that I set an example for Siamese women." All went on favorably in her case, to the astonishment of many in that region who visited her. They were very curious, however, to learn what *medicine* she took to avert the great peril she incurred. Her room where she lay cool and comfortable on a mattress with a white sheet spread over her, her little one washed and dressed by her side, presented a striking contrast to the scenes ordinarily witnessed when children are born in Siamese homes.

It may be observed of this custom of "lying by the fire," that the origin of it can hardly be religious, for the Malays, who are Mohammedan, are as observant of it as the Siamese, who are all Buddhists, though, as Sir John Bowring suggests, there may be some vague idea of pacification or purification connected with it.

Nor is the custom one imposed on women by the tyranny of the other and stronger sex, like the veiling of the face required in Mohammedan countries. It seems to be a *self-imposed* addition to what one would think was already a sufficient amount of suffering incident to motherhood, and only furnishes another proof that "the dark places of the earth are full of the habitations of cruelty."

It must be added, there is one compensation to offset the mischievous consequences of this practice. It makes the women of the land escape the evils (prolapsus, etc.), that result in other countries so often from resuming household duties too soon after the birth of a child. The Siamese mother is guaranteed by this custom for one month at least, the fullest liberty to rest by her own fireside, undisturbed.—*Archives of Medicine*, June, 1879.

METALLOTHERAPY.

The marvels of metallotherapy will never cease. Dr. Dupuy relates, in a recent number of the *Gazette Obstétricale*, a case of retention of urine, in which he made a successful application of metallotherapy. The case was that of an hysterical woman, aged 40, who had been treated for several years for permanent and painful spasm of the neck of the bladder, accompanied by a little metritis and accentuated hyperæsthesia of the left ovary. For the last year, she had retention of urine, which necessitated a five months' daily catheterisation; she at last was relieved of this by antispasmodic treatment and by the employment of suppositories of belladona. The cure was continuous till the month of last November; then retention reappeared, more painful and more persistent than before. The introduction of the sound provoked a spasm of the muscles of the urethra, and immediately awoke in the patient a sensation of heat and violent pain, frequently provoking an attack of convulsion with lost of consciousness. The patient had arrived at such a point as to have so much horror of the catheterisation as not to drink, and to endure the torture of thirst for two or three days at a time in order to put off the moment when the use of the sound would become indispensable. Things were at this pass when, after having exhausted all the series of antispasmodics, M. Dupuy had the idea of having recourse to metallotherapy in order to discover the metal suitable to the patient, who was at this time suffering from convulsive spasms of the limbs. He ascertained that gold, when applied to the skin, increased the convulsions, whilst other metals, such as copper, steel and silver, made them disappear immediately. M. Dupuy then applied over the vesical region and round the upper part of the thighs the metallic bracelets of Dr. Burq; and an hour afterward the patient passed urine abundantly and without pain. From that moment, the catheter was no longer called for; when the urine did not pass, the armatures were applied and micturition occurred naturally, although sometimes with pain. The ovarian hyperæsthesia had also disappeared, and the patient could swallow more easily, thanks always to the metallic bracelets.

M. Landouzy relates an extremely curious example of metalloscopy or metallotherapy observed by him in the wards of Dr. Hardy. A woman suffering from severe hysteria, convulsions, contractions, etc., presented, at the time at which these observations were being made, attacks of meteorism provoking very severe abdominal pains. With the view of calming these pains, M. Landouzy, after having previously bandaged the eyes of the patient, tried upon the belly the application of a magnet, which at first only gave rise to a sensation of disagreeable cold; but about two moments later there occurred in the right wrist and labial commissure some slight convulsive movements; at the same instant, the speech of the patient, who up to that time had continued to answer questions which were being put

to her, became slow and heavy, like the conversation of a person who is falling asleep, and then the patient became silent; all efforts made to awake her by all sorts of means were in vain; she remained plunged in profound sleep, with general anæthesia and muscular resolution. Seeing that this state much resembled natural sleep, except that absolute anæthesia continued, the magnet was withdrawn; at the end of six seconds, the same movements occurred in the face and the wrist as those already observed, and the patient, whose eyelids had been unbandaged, opened her eyes and seemed to come out of a profound sleep; at this moment, it was ascertained that sensibility had returned all over the body. A new observation was then made; the eyes of the patient were at first simply bandaged, without making use of the magnet, and for more than ten minutes nothing particular occurred. At the end of this time, a portion of the magnet was put in contact with the anterior surface of the left forearm; about a minute afterwards there occurred what had been observed when the magnet had been applied on the first occasion, that is to say, slight spasmodic movements in the wrist and in the right labial commissure. Then the patient became insensible to all means of stimulation, and seemed to fall profoundly asleep, respiration and circulation remaining as they were before the experiment. It sufficed to remove the magnet in order that at the end of from six to eight seconds the patient, whose eyes this time had been bandaged, awoke, when, after having presented the same slight clonic movements which have been already mentioned, she asked if they were not going to take off her bandage. This being taken away, the magnet was replaced in contact with the abdominal walls, and for a quarter of an hour the patient conversed tranquilly when interrogated; then, while still conversing, M. Ladouzy closed her eyelids with his fingers and thus kept the eyelids closed: two minutes had not elapsed, when the patient fell again into a state of complete sleep with general anæsthesia. This time, instead of withdrawing the magnet, it was left in position, and the patient's eyes were drawn open. She immediately came to herself, said that she had not dreamed at all and experienced nothing during her sleep, but felt something heavy and cold on the stomach. This experiment was repeated a great number of times, and this truly lethargic sleep was always produced under the same conditions, viz: Application of the magnet on a given point of the body, the patient having her eyes closed and covered: the patient always returned to herself and recovered sensibility as soon as the magnet was withdrawn if the eyes remained closed, or as soon as the eyes were opened if the magnet still remained in in contact with the skin. We publish to-day some interesting contributions to the knowledge of the subject.—*British Medical Journal*, April 26.

### PREPARATION OF IMITATION KUMYS.

Fill into a strong champagne bottle, good, fresh, unboiled cow's milk to such a height that, after the addition of thirty grammes (1 oz.) of granulated or powdered sugar, and after corking, there would still be left at least an inch of empty space below the cork. Before corking, add a piece of fresh compressed yeast, a teaspoonful of good beer yeast may be taken. The contents of the bottle are well shaken, repeatedly, then the bottles are placed in the cellar, where they are turned up and down a few times during the day. From and after the fifth day the mixture is ready, and may be drunk to about the twentieth day. It is best to prepare about six bottles full at a time, refilling each after it has been emptied and cleaned, so that the treatment, after being begun, may not be interrupted. On opening the bottles, the contents are very apt to foam over, hence the bottle should be opened while being held over a plate. It should never be opened where there may be any furniture or dresses about, which might be spoiled by sputtering.

A good mild wine or kumys should have a homogeneous appearance, of the consistance of thin cream, should be effervescent when poured out, of an acidulous, agreeably vinous odor and taste, and should not be full of lumps, or taste like butter milk.

On first using kumys it produces loose bowels, but this effect soon passes off.—*Pharm. Zeit.—New Remedies.—N. C. Medical Journal.*

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### POISONING WITH SALICYLATE OF SODIUM.

Dr. Feltz reports the poisoning of a man who took 200 grams of salicylate of sodium in one month. He took 4 grams three times daily for seven days, then increased the dose to 6 grams, and, in the the last 17 days to 8 grams three times daily. The intoxication symptoms were principally frequent vomiting and repeated attacks of very painful headache, preceded by reddening of the neck, face and head. His pupils were very much contracted and the symptoms continued for 17 days after the last dose of medicine had been taken, while the acid could be detected in the urine for 16 days.—*Ap. Ztg.* Dec 14th, 1878.—*Am. Journal of Pharmacy.*

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### STAMMERING.

Dr. W. B. Hammond (*The Voice, No. 3*) gives his method of self-treatment of this annoying affection. He considers it a functional disorder of that part of the brain which presides over the faculty of speech. Having himself been a sufferer, he is able to speak as one having authority. He describes his method in the following words:

"If the attention of the stammerer can be diverted from himself and his articulation, he will often speak to others as

calmly and as perfectly as he does to himself when alone. Now, there are various ways of accomplishing this object, but the one that I found most effectual was the performance of some slight muscular action synchronously with the articulation of the difficult syllables. The words that troubled me most were those that began with the explosive consonants—those that require the sudden opening of the lips for their enunciation—*b*, *p*, and *t*. I could no more have repeated the alliterative lines, 'Peter Piper picked a peck of pickled peppers,' etc., to other persons without stammering, than I could have walked to the moon, though perfectly able to say the whole piece through without a flaw when speaking alone. With each troublesome word, especially with one beginning a sentence, I made some slight motion with the hand or foot, or even with a single finger, and I found that this plan enabled me to get the word out without stammering. With the enunciation of 'Peter,' for instance, I would tap the side of my body with the hand just as I opened my lips, and the word was articulated without the least halting. In the procedure, the attention is diverted from the effort to speak to the performance of the muscular action mentioned, and hence the speech becomes more automatic than it is with stammering. It consists in efforts to render the speech automatic. No orator thinks of his articulation when he is making a speech; no one in ordinary conversation thinks whether or not he will be able to pronounce a certain word, or to acquit himself well in the management of his tongue and lips. His mind is concerned with his thoughts, with what he is going to say—not with the manner in which he will articulate, and the more thoroughly we can succeed in bringing stammerers into the same way of procedure, the more successful will we be in our efforts to cure them."

He followed this method about two years before the cure was accomplished, and has succeeded in curing several of his young friends by recommending it to them. Sometimes it has failed, as all other plans sometimes fail; in some cases, probably from want of perseverance in carrying out his plans. —*British Medical Journal*, May 3.

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## YELLOW FEVER—EPIDEMIOLOGICAL SOCIETY.

J. Netten Radcliffe, M. R. C. S., Vice-President in the Chair, May 5, 1879.

A paper on the diagnosis and causes of yellow fever was read by Mr. Lawson, Inspector-General of Hospitals. The author pointed out the distinctive clinical feature of yellow fever was the occurrence, usually on the third or fourth day, of albumen in the urine, accompanied by desquamation of the bladder, and, on the following day, of the tubes of the kidneys, with great reduction or disappearance of the chloride, and reduction of the urea. Fever, with these and the other char-

acters of yellow fever fully developed, was met with both in the continued and periodic forms. Healthy persons going into a locality where its cause was known to be in a state of activity were very liable to be attacked; but if they, or others infected in such a locality, returned to a healthy one, they went through the fever there without communicating it. Healthy localities were often in close proximity to those where the disease originated, as at the military station at Newcastle, in Jamaica, where, in 1756, in a cantonment on the narrow crest of a mountain spur, there were three such sickly zones, alternating with four healthy ones, in a length of eight hundred yards. Porous materials, such as clothing, etc., might undoubtedly imbibe a quantity of the emanation if exposed in places where it was generated, and some American authors believed that when a box of such articles packed in a yellow fever locality had been opened at a distance, that disease had sometimes been excited among those present. The general impression in yellow fever localities, however, was that the disease produced by the quantity carried in the ordinary clothing was infinitesimally small. There was no evidence to show that persons laboring under the yellow fever, or the bodies of those who had died of it, gave off a poison capable of exciting the disease. Should the emanation from a ship with a source of yellow fever on board, or from fomites, meet with a suitable locality on shore, could it fructify so as to produce a fresh focus of the disease, giving rise to a similar emanation? Many believed it could: but, to establish the point, it was necessary to exclude the possibility of the disease having arisen at such points under the action of the general factor mentioned above, which at present there were no means of effecting.—In the discussion which followed, the Chairman, Sir W. R. E. Smart, Sir Joseph Fayrer, and Dr. Caddy took part.—*British Medical Journal*, May 3.

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## ON THE USE OF SALICYLIC ACID.

There are two independent effects of salicylic acid: the germicide and the antipyretic; there are many conditions of disease where it would be well to make use of both these actions, and some where the antipyretic is distinctly aided by the germicide effects of the acid, so that fever is lowered more certainly and quickly by its use than when the more easily administered, soluble salt is prescribed. This is well seen in scarlatina anginosa, and sometimes in diphtheria, whether the acid be conveyed to the throat directly, or be suspended in mucilage, or by means of glycerine, its most convenient solvent. Half an ounce of glycerine, when hot, will dissolve half a drachm of salicylic acid. This is stronger than necessary, and, when cold, will either deposit some of the acid or may become solid; in either case, it will redissolve when heated, and can be mixed in a warm spoon with an equal quantity of hot water, and given in small quantities with or without any drink after-

wards; or, a solution of five grains of salicylic acid to the drachm of glycerine can be used, either alone or given with a little cream. In this way, not only are the mouth and throat cleansed, but the fever is soon lessened; it is only while the fever is high that the strong doses need be continued. In cases of moderate severity, it suffices to prescribe this weaker glycerine solution, and to order half a drachm or a drachm to be mixed with an ounce of water at the time of administration. The latter is quite strong enough for an adult, and is better followed by a drink of water. Or half an ounce of the glycerine in half a pint of water forms a suitable mixture; this sipped frequently or given as a drink every two or three hours, diminishes fever and improves the throat. Such a solution of two grains to the ounce is efficient as an antiseptic, and can be used in spray. Where a general antipyretic effect is desired, salicylate of soda may be given at the same time, fifteen grains being equivalent for this purpose to ten grains of the acid. It is contraindicated where there is renal congestion or an albuminuria, as most of the acid is secreted by the kidneys. This method of administration is more suitable to scarlet fever than to diphtheria, where the necessity for giving iron restricts the use of salicylic acid to the intervals when the stronger form can be applied in small quantities frequently. In erysipelas, no form of salicylic acid is advisable; not only would it interfere with the use of iron, which is then essential, but there is no febrile condition over which it has so little control as erysipelas. In typhoid fever, the use of salicylic acid presents some advantages over that of salicylate of soda. The glycerine solution is suitable for administration in diabetes, salicylic acid having a power of checking the formation of sugar not possessed by salicylate of soda. For this purpose the acid is required in full doses; it might take the place of carbolic acid in rendering diabetes more tolerant of operations and less liable to suffer from boils and from suppuration. In catharrhal sore-throat, or at the commencement of a common cold, the weak solution of salicylic acid is beneficial. For checking the febrile reactions in phthisis it is also preferable. It also acts as a sedative to the pneumogastric, and the weaker glycerine solution in water relieves cough. As a remedy in whooping cough, this solution may be found as effective and more convenient than the laryngeal insufflation of the powder. Hay-fever is checked by dropping a grain to the ounce solution into the nares. The great obstacle to the freer use of salicylic acid is its sparing solubility in water; this difficulty has been overrated. Solutions of one or two grains to the ounce keep clear or deposit a few flocculi only, when theoretically all but one-fifteenth of a grain should separate.—Wm. Squire, M.D., F. R. C. P.—*British Medical Journal*, April 26.

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THE HISTORIC EVOLUTION OF THE PERCEPTION OF COLORS.

In a memoir presented to the Academy of Sciences and Literature of Lyons, Dr. Henry H. Dor, a well-known oculist,

contests the view held by Mr. Gladstone, and by Geiger and Magnus, of Boston, that our ancestors were color-blind; a view deduced from their writings and from the different names which they have given to colors. Dr. Dor endeavors to demonstrate that now, as in the time of Homer, poets insist too little upon the indications of the colors, but much more upon their luminous intensity. Moreover, M. Dor says that persons who do not possess any knowledge of physics find much difficulty in distinguishing the colors of the rainbow, and only see it in three or four colors, in place of the seven classical colors of its composition. Further, it results even from the very study of the Assyrian and Egyptian monuments, that those nations had not only perceived, but imitated, the greater part of the colors of which we are at present cognizant.—*British Medical Journal*, April 26.

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## THE TREATMENT OF AGUE BY QUINETUM SULPHATE.

By W. AINSLIE HOLLIS, M.D*.

I have recently tried the administration of quinetum sulphate in about a dozen cases of ague. The substance recommended itself first to my notice on the score of economy; it is scarcely half the price of quinine. Quinetum represents the whole of the alkaloids of the *Cinchona succirubra* bark. The tree itself grows plentifully in East India, Ceylon, and Java. The sulphate contains, according to Mr. Whiffen†, of Battlesea: Quinine sulphate, 25 to 30 per cent.; cinchonine sulphate, 20 to 25 per cent. He further states that the variations of the alkaloids rarely range to the extent of five per cent., as above mentioned. This fact is, of course, of some importance in estimating the therapeutic value of the drug.

The sulphate of quinetum is a white flocculent substance consisting of numerous fine acicular crystals, bitter in flavor, and possessing, according to Dr. De Vrij, a molecular rotation of 38 deg. to the left. It readily dissolves in acidulated water. Drs. Chevers, Ewart, and Bird have used it in India in the treatment of intermittent fevers with success. Dr. Vinkhuysen narrates same cases in the *Practitioner* (February, 1878), wherein quinetum successfully cured ague after quinine had failed to do so. He found it to be especially serviceable in those protean forms of malaria classed usually as masked ague. The curative value of the red cinchona alkaloids, as far as my own experience avails, far exceeds that of the comparatively small quantity of quinine which they contain.

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*Read at the East and West Sussex District Meeting of the South-Eastern Branch.

†Stoeder *Weekbad vanhet Nederl. Tijdschrift voor Geneeskunde*, vol. 17, p. 249), in comparing the analyses of the English (so-called) quinetum with that from the Japanese *cinchona succirubra*, finds that the former contains 24 69 per cent. of cinchonidine, 5 4 per cent. of quinine and 38.24 per cent. of cinchonine; the latter 45 to 46 per cent. of cinchonidine, 6 to 14 per cent. of quinine, and only 26 to 27 per cent. of cinchonine. In the English drug there was 21 per cent. of amorphous alkaloid against 4 to 5 per cent. of the same in the Dutch sample.

I am, therefore, led to believe, with Dr. Dougall, that the other alkaloids are valuable antiperiodics. MM. Colletti (*London Medical Record*, 1878, p. 129) and Raffertie (*Philadelphia Medical and Surgical Report*, vol. 20, p. 383,) both ascribe important antiperiodic properties to cinchonidine. If we refer to the analysis of quinetum sulphate, we shall find that about half the drug is composed of the sulphate of this alkaloid; it appears, therefore, probable that some of the valuable properties of the mixed alkaloids are derivable from this substance.

A dose of quinetum sulphate of from ten to fifteen grains is almost invariably sufficient of itself to stop the course of a febrile intermittent. In two cases wherein it failed to do so, I subsequently tried quinine with no better result. A man with tertian ague, living at Selscombe, came under my care on the 19th of February last. He had been under treatment for this disease since Christmas without relief. One dose of fifteen grains of the quinetum sulphate entirely checked the shivering fits, and the subsequent administration of three-grain doses, three times daily for three weeks, cured him. In another case, a youth aged 16, who had been taking six grains of quinine daily for three weeks for a quotidian fever, and under this treatment had greatly improved, was completely cured of the disease by nine grains of quinetum sulphate in twenty-four hours. I select these two cases as illustrating the value of quinetum sulphate when other remedies were of less avail.

Finally in quinetum sulphate I believe we have a valuable antiperiodic remedy second only to quinine. Its comparative cheapness recommends it specially to the favorable consideration of the medical staff of hospitals and other charitable institutions where economy is, or ought to be, particularly practised. —*British Medical Journal*, May 10.

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## A GIANT BIRTH—THE CHILD WEIGHING TWENTY-THREE AND THREE-QUARTERS POUNDS.

By A. P. Beach, M.D., Seville, Ohio.

At the request of many readers of the *The Medical Record* I am persuaded to report a case of labor which I attended a few weeks ago. The great size of the child at birth was the remarkably feature of the case, it being probably the largest human birth on record. It perhaps would be well to state here, that when we take into consideration the immense proportions of the parents, the size of the child need not astonish us. The mother, Mrs. Captain M. V. Bates, whose maiden name was Annie Swan, of Nova Scotia, stands 7 feet 9 inches in height. Captain M. V. Bates, formerly of Kentucky, is 7 feet 7 inches in height. These large people have, undoubtedly, been visited by many of the readers of this journal, as they have given public receptions in nearly all of the large cities and towns of Europe and America.

At 12, M., January 15, 1879, I was called upon to attend this lady in confinement, it being her second labor. I found her surrounded with competent attendants, and everything in order and at hand that would in any way add to her comfort and convenience. Her pains were quite infrequent and light. After a convenient time, with my patient in the usual position, I proceeded to make an examination, but was unable to reach the os uteri, it being so far up. I could not with my hand, by any ordinary effort, make a satisfactory examination, but concluded that she was in the initial stage of labor. She remained in much the same condition for the next 24 hours, passing the night comfortably, and I saw no necessity for any interference with the order of things. At the end of 36 hours the pains became more frequent, and on examination I found the os dilating and labor progressing favorably. The head engaged: position, second occipito-anterior. Notwithstanding the long interval between pains the head made good speed through the depth of pelvis. At 4, P. M., on the 18th, while conducting an examination during pain, the membranes gave way spontaneously and the amniotic fluid came pouring out so profusely as to startle every one. I had my patient very close to the margin of the bed, as was necessary in order to facilitate manipulation on account of her great size.

The bed was well protected with rubber blankets, which carried the waters over the side of the bed where they were caught in vessels to the amount of five gallons. That lost by absorption and evacuated with succeeding pains, would make the total of water not less than six gallons. This was, undoubtedly, a case of dropsy of the amnion, co-existent with general dropsy, from which she suffered to some extent during the last months of pregnancy.

Soon after the rupture of membranes the fœtal head was disengaged, and in the soft parts. The mother was in good condition, the fœtus seemed strong and healthy, and everything indicated a speedy and successful termination. But here the trouble began. After the escape of the waters all pain ceased. The great abdominal muscles which had been so much distended lay lax over the fœtus like the blanket which covered the person of the mother.

Inertia was complete. There was no pain except as the result of manipulation. Ten grains of quinine, Squibb's ergot, and brandy were administered. The forceps were resorted to early, but all to no purpose. The forceps could not be successfully applied because of the unusually large head which lay, with the neck, in a vagina that would measure on its posterior aspect 12 inches at least, and from 7 to 9 in its anterior. The safety of the child was my great fear. The head was seemingly almost born, but the shoulders were fast. How to disengage them was the question. The hand could not be passed to reach the shoulder. I had telegraphed for Dr. J. D. Robinson, of Wooster, O., who now came to my assistance.

He attempted the use of the forceps with but little success. The child could not be so delivered. After further consultation, as it was our great desire to deliver if possible, without mutilation, we passed a strong bandage over the neck of the child and while one made downward and lateral traction, the other after several attempts, succeeded in bringing down an arm, and finally after a laborious seige we succeeded in delivering our patient of a male child. It weighed 23¾ pounds: its height, 30 inches: breast measure, 24 inches; breech, 27 inches; head, 19 inches; foot, 5½ inches in length. The secundines, which were soon removed, weighed 10 pounds. The mother was considerably exhausted, but is making a good recovery. Mrs. Bates, six years ago, gave birth to a dead child in London, weighing 18 pounds, and 24 inches in height. She was attended at the time by one of the celebrated obstetricians of that city, who encountered the same difficulties in delivery that I had.

[We believe that this is the largest infant at birth of which there is any authenticated record. Cazeaux refers to one that weighed 19 pounds. There is a fœtus in the London Hospital Museum 24 inches long. The average length is 20 inches; average circumference of head 13½ inches. The placenta usually weighs one-sixth as much as the fœtus. In this case the secundines in all weighed nearly half as much as the child.]—*Medical Record.*

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## PHYSIOLOGICAL ALBUMINURIA.

In connection with the interesting paper by Dr. Saundby, which we publish in another column, it may be well to refer to a communication made to the Medical Society of Florence on May 12, 1878, and reported lately in *L'Imperziale* by Dr. Marcacci. Dr. Marcacci observes that the presence of albuminuria in the urine is considered by the majority of physicians as the index of a pathological condition, although Bernard, Vogel, Hoffman, and others, have pointed out that albuminuria may be met with in men whose health is perfect, and under certain conditions of alimentation. The excessive consumption of eggs is only one of the conditions of this sort of physiological albuminuria. It is somewhat difficult to prove that the presence of albumen is not related either to a morbid state or to a special *régime*. Moreover, there exists a certain number of cases of error. In these researches, it is only with small quantities of albumen that one deals, while the blood, pus, and the urethral mucus, or that of the other neighboring organs or protatic fluid, may in themselves constitute a cause of error when they are mixed with the urine. Nevertheless, according to M. Marcacci, a series of observations made upon himself has proved to him that albumen may be found in a physiological urine.

Albumen, he says, is constantly absent in noctural urine: on the contrary, it is very rarely absent in diurnal urine: it is possible to make albumen appear in the diurnal urine by executing rotary movements of the arm for from ten to fifteen minutes in such fashion as the pulse is raised from seventy-five to one hundred and fifteen pulsations a minute. These results are in some sort confirmatory of the researches made by Leube at Erlangen in 1877, which are worth while summarising. Leube undertook his research on the soldiers of the garrison at Erlangen, and took the necessary precautions to avoid cases of blennorrhagia. The following was his method of research: Fresh urine was filtered, and a certain quantity carried to the boiling point; the other was treated by nitric acid, both being compared with the intact urine on a black tablet. In the urine which showed opacity, a small quantity of acetic acid was added to precipitate the deposit.

This precipitate was washed and treated by Millon's fluid, and another test was made with the liquor potassæ, and possibly with the sulphate of copper and heat, when the purple red or violet color was obtained with Millon's fluid, or the violet color with the potassa, the urine was considered as albuminous. Leube examined the night urine of 119 soldiers. The number of observations was 154, which were then divided: 90 soldiers were examined once, 23 were examined twice on two different days, and 6 were examined three times at intervals of three days. Briefly, out of 154 examples of nocturnal urine only a very small quantity of albumen was found in five cases, and in only one case a notable proportion. Researches performed on the urine secreted during the day after military exercise, and in the months of June, July and August, gave very different results; in fact, of five soldiers who had shown albumen in the night urine, a much larger quantity was found in the day, and further, albumen was found in 18 soldiers who had not presented any in the night. Bringing the frequency of albumen in these observations to a percentage, it was found that the morning urine was albuminous in 5 soldiers out of 119, that is to say, in 4.2 per cent.; that of the middle of the day was albuminous in 19 soldiers out of the 119, that is to say, in 16 per cent. The day urine was only albuminous in 14 soldiers out of 119, that is to say, 11.8 per cent. Finally the urine of the morning and that of the middle of the day were equally albuminous in 5 soldiers out of 119, that is to say, in 4.2 per cent. It may be added, that the quantity of albumen in the urine most heavily loaded with that substance was from 37 to 38 *milligrammes* per cent. Such are the facts which seem to prove the possibility of albuminuria in the physiological state. —***British Medical Journal*, May 10.**

### DERMATOPHONY.

Prof. Hueter, of Griefswold, has shown that we can hear with the microphone the rush of blood through the capillaries of the skin (dermatophony), the sounds of muscular contraction (myophony), of tendinous extension (tendophony), and of the vibration of long bones when percussed (osteophony).

As the microphone is, in general, not easy of application to the skin of the body, Prof. Hueter has invented a special instrument or dermatophone, consisting of a flexible stethoscope with a thin caoutchouc membrane stretched over the end applied to the skin, and a perforated horn plug to fit and close the ear perfectly. With this instrument he has clearly proved that the capillary murmur is most clearly heard where the circulation is most vigorous. In acute inflammation of the skin, with marked inflammatory hyperæmia, the murmer is louder but deeper in tone than in the normal state.—*Times and Gazette*, Feb. 15, 1879.—*Chicago Medical Journal and Examiner.*

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### POSTURE IN THE EXPULSION OF THE PLACENTA.

Dr. A. T. A. King, in an article in the *National Medical Review*, is inclined to believe that if a woman sits up immediately after the delivery of the child, the placenta is much less apt to be retained. He states that he has repeatedly secured the delivery of the placenta by instructing the female to sit after delivery, the child having been previously separated in the usual way. He does not, however, positively recommend this practice, though he points out that if the womb were not well contracted, its contraction would be promoted in the manner stated, and what is more, should hæmorrhage occur in the sitting posture, it would probably be less profuse and less frequently fatal than when the woman was recumbent, for the reason that syncope would occur sooner, and thus the force of the cardiac ventricle would be reduced earlier and before time had been allowed for it to pump out the horrible sluices of blood that so often occur during post-partal hæmorrhage in the recumbent posture.—*Medical and Surgical Reporter*, June 28.

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### PURULENT OPHTHALMIA OF INFANTS.

Dr. Luton, of Rheims, states that the tincture of iodine in distilled cherry-laurel water is a far more efficacious and innocuous means of treatment than the nitrate of silver. One gramme of the tincture may be added to twenty grammes of the water of medium strength (20°), and produces a collyrium the color of pale brandy. Some of this should be dropped into the eye four or five times a day, external lotions being also abundantly employed. It has proved rapidly successful at the Hotel-Dieu of Rheims.—*Revue Med.*—*Obstetric Gazette.*

### TREATMENT OF SICKNESS DURING PREGNANCY.

I am happy to send a report of the further progress of the case of sickness during pregnancy published in the *Journal* of May 17th. "The patient is doing very well." She was about six weeks pregnant (not six months, as stated in the *Journal*). Since my former communication, a gentleman in Scotland has forwarded me the following case:

"Mrs. Z., aged 23, complained of great sickness when six weeks gone in her third pregnancy. (The sickness during the two former pregnancies had been occasional and slight.) For a fortnight before I saw her, she had vomited everything she took, and was continually sick. Nothing medicinal gave her the slightest relief. I proceeded carefully to dilate the os, and with little difficulty introduced the end of my finger through the os internum. The operation caused very little discomfort, and the result was most gratifying. She was only once slightly sick, and that immediately after the operation. She has not had the slightest difficulty since. I have closely followed the reports of your cases and of others cured by your operation, and I have great pleasure in being able to add one to what is already an extensive list of successes."—E. Copeman, M. D., F.R.C.P., Physician to the Norfolk and Norwich Hospital.—*British Medical Journal*, June 21.

# EDITORIAL.

## YELLOW FEVER OUTBREAK OF 1879.

The assiduous and intelligent student of the habitudes of yellow fever contagium is not taken by surprise at the recent outbreaks in Memphis and on the Gulf coast. They are events quite in harmony with the natural history of yellow fever poison.

At every point which the senior editor of this journal visited in 1878, he endeavored to impress upon the respective communities a knowledge of the fact that the contagium might be preserved for an indefinite period of time under conditions favorable to its preservation. For the purpose of presenting this truth in a forcible manner he was in the habit of using a homely form of illustration, and of saying that "yellow fever poison was something which could be put away and kept through the winter like sweet potatoes, and like them would grow again in the warmth of the succeeding summer, under circumstances favoring its growth."

We are not able to formulate in a precise manner the conditions under which the vitality of the yellow fever poison is best secured. It is, however, our firm conviction that exclusion of air is a *sine qua non* to this end. At all events the assertion can safely be made that the histories of long preservation of the cause of yellow fever invariably include confinement in some closely shut receptacle. The Plymouth cases have, in the opinion of many observers, thrown considerable doubt upon the doctrine hitherto nearly universally held, that low temperature is positively destructive of yellow fever contagium. In our own minds no change of opinion has taken place in consequence of the Plymouth outbreak. The same conditions, whatever they were, which protected the hid away germs from the air probably protected them from a degree of cold sufficient for their devitalization.

To those but little conversant with the natural history of yellow fever it may appear strange that an outbreak from hybernated germs should take place in Memphis and yet nothing of the kind should occur up to the same date in New Orleans or any place near its latitude where yellow fever prevailed in 1878. We suppose this fact to be based upon the truth of the statement previously made that hermetical enclosure of yellow fever germs is more apt to occur in houses built with thick walls and battened doors to exclude cold air, than in houses constructed to keep us cool and secure us good ventilation. In this respect yellow fever poison has its perfect analogy with the materies morbi of other infectious diseases. We do not believe that a flannel cloth worn around the throat of a scarlet fever patient would retain its power of infection for twelve months in this climate and in our houses, as Sir Thomas Watson describes to have occurred in London. Let us as physicians profit by these recent events and direct our energies to their prevention in future.

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## CREOLE IMMUNITY IN YELLOW FEVER.

In the November number of this journal, under the title of "Calling Things by their Right Names," we alluded to a theory now less prevalent than formerly, of the exemption of natives of New Orleans from yellow fever: also to the fact,

that our mortuary records show an apparently marked increase in the prevalence of malarial fevers during yellow fever epidemics. The following table, compiled from the annual mortuary reports of the Board of Health, confirms the statement:

| Mortality from ..... | 1867 | *1868 | 1869 | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1877 | 1878 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yellow Fever..... | 3107 | 3 | 3 | 587 | 54 | 39 | 226 | 11 | 61 | 1 | 4046 |
| Malarial Fevers..... | 751 | 236 | 332 | 406 | 348 | 291 | 439 | 488 | 383 | 409 | 777 |

The obvious conclusion, from a comparison of this table with the theory of Creole exemption, must be that there is a logical connection between the two, in the absence of any special explanation of so striking a relation. The late Dr. Fenner was the most able and prominent advocate of the identity of yellow fever and the malarial fevers, but we are not aware that any of our Creole *confreres* invoke his authority, and the adherents of that notion must be very few. Now, assuming the all but universal agreement of medical men, of the non-identity of yellow fever and the malarial fevers, how explain this remarkable increase of malarial fatality during the epidemicity of yellow fever, except on the ground that large numbers of cases of yellow fever are mistaken for paludal fevers?

But it is the general observation of those physicians who do not hold the theory of Creole exemption from yellow fever, that, during the prevalence of that disease, paludal fevers are less prevalent than usual, so that this magnifies the significance of the apparent increase of malarial fatality.

In the previous article we urged the importance of calling things by their right names simply in behalf of correctness in recording vital statistics. Now we observe that this question concerns the living at least as much as the dead. No intelligent layman, in regions visited by yellow fever, no physician with the smallest understanding of his business, would apply the same treatment to yellow fever and the paludal fevers. Intelligent laymen hereabouts have made diligent observations and have arrived at some such conclusions as the following, in common with the most judicious and candid physicians: (1) that medication scarcely, if at all, controls the course or limits

*First 9 months.

the duration of yellow fever; (2) that, in general, those practitioners who write most prescriptions lose most patients; (3) that an ignorant or careless physician is more dangerous than the disease itself.

Some years ago we indulged in a little philosophy on small-pox as a factor in civilization. Since the introduction of vaccination no well regulated community allows small-pox to get the upper hand. The intelligent and prudent adopt this plain means of protection, while the ignorant and careless suffer. Thus small-pox operates powerfully in selecting the least valuable lives for its tribute, while the fittest survive, and the standard of humanity is elevated. At the risk of a candor which savors more of utilitarianism than humanitarianism (in the ordinary and limited sense of the word,) we will add that the doctrine of Darwin affords us the only visible consolation in the working of that theory of creole exemption from yellow fever, which, we are forced to believe, costs many lives, whenever the disease widely prevails in the city.

## OBITUARY.

ASHWOOD, La.

The late Council at Atlanta having ordered biographical notices of the physicians who died of yellow fever to be prepared, some brief account of one of those brave men may not be unacceptable to your well-known journal.

We refer to the late Dr. Wm. A. L. Potts, of Ashwood, La., one of the gallant volunteers who obeyed the memorable telegram, "The epidemic is the battle-field of the true physician;" and with Norris and seven noble comrades in Vicksburg alone, "died, because he would not see others die unaided."

The subject of our notice was the youngest son of Jane Alexander, of Cumberland, and the late William Potts, of Baltimore, and grandson of Judge Potts, of Frederick, eminent on the bench and in the United States Senate. Born in Maryland about 1834, of a family connected with her earliest history, he graduated with honor in Richmond, and after practising a short time there and in New York, settled in Tensas, La., where he

had acquired reputation and a good practice when the war broke out, and duty called him to another post.

Volunteering in the ranks, his surgical skill shown on the battle-fields of Port Gibson and Mansfield, secured promotion unsought; and he was said to have passed the best examination of any surgeon in the Trans-Mississippi. Serving with Majors at Red River and Pleasant Hill, and with Magruder till the last, he had attained the grade of surgeon of division, when the surrender closed his military career. Returning to Tensas, at the last urgent instance of friends, he endeared himself to all, as well by his personal merits, as skill and enthusiasm in his profession, which he loved, as was often said, only next to his mother.

As a surgeon, the cool, steady nerve, firm hand, and gentle touch that made him the chosen assistant of Dr. Bell Gibson when a student, rendered him one of the most skilful and successful operators in the South. As a physician, to thorough knowledge, keen perception and unfailing energy, he added that rare faculty of inspiring confidence and exerting control which is often more valuable than medicine. In his general practice, as among the sick and wounded in his camp and hospital work, it was often said that, however despondent friends or patient might be, his presence alone seemed to assure relief and hope.

Of his private character, moulded by the early influence of parental excellence, and matured by a life of high-toned exertion and self-reliance, we need only say that it was in keeping with the noble and unselfish close of that life.

Though somewhat reticent and reserved in general intercourse and noted for quiet, but inflexible resolution, his temper had a calm sweetness and equanimity which few things could disturb, and his manner and bearing showed the unmistakable stamp of innate and cultivated refinement. A systematic and earnest student and fond of general reading, he regarded neither labor nor fatigue in his beloved profession, in which he conscientiously made interest subordinate to science and benevolence. Those who knew him best, loved him most; knowing him of unsullied honor, generous to a fault, kind to the poor, constant to his friends, in all relations of life a gentle-

man without reproach, and to his family the best and dearest of sons and brother.

When the epidemic became violent, and Vicksburg in panic and distress called for help from all sides, when telegrams announced that hundreds had no medical care, his friends tried in vain to prevent Dr. Potts from volunteering. Though urgent that his mother and sisters should leave, he met all remonstrances on his own account with the simple words, "If I am a physician, I must do the duty of one; if help is called for, I must give what help I can. Don't you see what Choppin says," for to him, as to others, that fatal telegram was like the call for volunteers on a forlorn hope: the bravest one first to respond.

The last half of August proved the most deadly season, and he came at its worst. It was characteristic of his steadfast temper that he reported for service, and made all his arrangements before letting his family know of his arrival. With the fear of his coming they had delayed leaving until too late: and now insisted upon his staying with them instead of at a hotel, as he proposed, lest he should endanger their safety; it would have been a vain precaution for some of the most violent cases were already in the adjoining houses.

Having brought his own horse and buggy, and giving his services and life without a thought of recompense, he began work under the Howards with a self-devotion and energy that ensured success in most of the cases under his care.

The volunteer physicians took their place with the foremost; no special caution was used in assigning their locations or hours of service, even could such care have availed; and their experience was among scenes of want, misery and contagion unknown in country practice. In letters written to friends in Tensas the night before he was taken ill, Dr. Potts expressed his deep feeling for the suffering he witnessed, and urged them to send relief to the Howards, which came in liberal measure.

Coming to the infected city from pure country air, and in the full prime of health and vigor, he may have been the more susceptible of these depressing influences; a brief season of active and successful practice ended on the 2d of September in an attack of the prevailing fever. Though at first pro-

nounced mild, neither nursing nor medical science could arrest its course, proving fatal on the 11th, almost before his friends had realized the danger.

Within the same week, but four days earlier, the youngest and most beloved sister, Miss Susan C. Potts, fell a victim to to the same terrible disease, having been taken ill almost at the same hour, and medicine and care proving equally ineffectual.

None but those who shared them can realize those days of horror and desolation when death was in every house, and human aid powerless; when in every family the dearest and most excellent seemed chosen for special victims. Of this family the brother and sister taken, had both some years previously been exposed to the fever without taking it, and might have been considered exempt; the others, though nursing them night and day did not take it, though the mother was prostrated by long and severe illness.

We cannot better close this notice, after saying that the family, including a brother (now a civil engineer in Chicago), contemplate removing both to their family burial place at St. Paul's, Baltimore, than with the following from the Louisiana *Journal* of that date:

"Our friend left Ashwood, called by the appeals from Vicksburg, against the wishes of his friends and the prayers of his family; giving up a healthy location and lucrative practice, to do his work as a true physician. Steadfast as a rock in his sense of duty, he was gentle as a woman, and though the acknowledged head of his profession in this section, he was as modest as one. The first report of his illness had spread sympathy and anxiety through the community, and when the fatal news was known on Sunday, there was not a dry eye in the little church; the colored people stopped every one on the roads to ask if it could be true; for all had known and loved him truly."

I believe he left none but friends in Texas, and many a tear fell for our beloved physician and friend, who like a true soldier faced the enemy where the battle raged fiercest, and in the prime of manhood and honor fell bravely in that cause of humanity

"Wherein no act is vain
And death but larger makes the service and the life."

# Reviews and Book Notices.

*Naval Hygiene. Human Health and the Means of Preventing Disease.* By Joseph Wilson, M.D., Medical Director U. S. Navy. Second edition, with colored lithographs, etc. Philadelphia: Lindsay & Blakiston; New Orleans: Armand Hawkins, 196½ Canal street. 8vo., pp. 274.

Dr. Wilson, in his travels, has been a careful student of nature, and in the capacity of surgeon in the United States Navy, has had rare opportunities of investigating the best means of preserving health and procuring the comfort of those "who go down in ships." In the work now under consideration, he has been rather discursive, but in the main, has kept the one thought in view, and the reader will obtain valuable information from the study of its pages.

The introductory chapter contains important information in regard to air and water and the necessity of their purity, and abruptly ends with observations on hydrophobia, introduced principally, we think, on account of the opportunity afforded of showing the extraordinary nerve of the author on an occasion when he was bitten by a dog that was *not mad*.

Chapters I to XIV are full of varied information. We are taken through the ship; various defects in naval architecture are pointed out. The crew is mustered; the characteristics of the sea described; sea-sickness, home-sickness and the other ailments of young sailors receive notice; the best means of preserving food and water on shipboard are pointed out; the subject of vinous and alcoholic drinks is discussed, and a graphic picture of alcoholic intoxication drawn.

Chapters XV and XVI discuss zoology and botany, and proper from improper food pointed out.

It is not until the chapter on syphilis is reached that we can find fault with the author. He considers that the Bible contains a perfect description of the disease, and in the quotation from Leviticus, takes undue liberties with King James's translation.

"When a man shall have in the skin of his flesh a [rising] *swelling*, a sore, or a [bright] *raw* spot, and it shall be in the

skin of his flesh like the [plague of leprosy] *ulcer of syphilis*, then he shall be brought unto one of the priests. And the priest shall look on the [plague] *sore* in the skin of the flesh; and when the [hair]* *raised margin* in the sore is [turned white] *inverted and white*, and the *sore* [in sight] *apparently* deeper than the skin of his flesh; it is a [plague of leprosy] *syphilitic ulcer (a Hunterian chancre)*; and the priest shall look on him and pronounce him [unclean] *infectious*. If the raw spot be white in the skin of his flesh, and apparently not deeper than the skin, and the *margin* thereof be not *inverted* or white, then the priest shall shut him up that hath the *sore* seven days."

On page 218 is found the following: "About the end of the fifteenth century prodigious havoc was created by a battery of lewd women in the Austrian army, at that time engaged in the siege of Naples, and a remnant of the army was saved only by raising the siege." ["General Butler, at New Orleans, in 1862, did better. The police regulation was that this sort of artillery should be kept in jail; but this being found insufficient, he ordered that pretended ladies, no matter what their apparent rank, who approached his men with insulting (?) language or gestures, should be treated in the same way."]

Now all of us know that it was not to protect the morals of his soldiers that the notorious order was issued, but to enforce tacit respect to his men from ladies whose husbands, brothers, or friends were in the Confederate army, and we have no doubt in the world that General Butler will be as much surprised as we are, to see the turn given to his manifesto.

In regard to prophylaxis, he says: "Let us not weaken by crude experiments the restraints now existing, which every middle-aged man must understand pretty well, from recollection of personal experience. Something like the following has been proposed: have handsome gilt signs attached to the fronts of houses, so that the old stager may suggest to go in and take "something," while the shy boy who hesitates is to be laughed at as a "chicken-hearted baby." Boards of health perhaps might do more than at present: they have charge of hospitals for patients suffering under "contagious diseases:" a reasona

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*The part of the body referred to is naturally without hair.

ble amount of confinement in the hospital might do the patients good, without serious harm to the communtty."

The publishers have spared no pains to present the work in excellent form.

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(1) *Posological Table: Including all the officinal and the most frequently employed unofficinal prepartions.* By Charles Rice, Chemist, Department of Public Charities and Correction, N. Y., etc. 18mo., pp. 96. New York: Wm. Wood & Co. 1879.

(2) *The Pharmacopœia of the British Hospital for Diseases of the Skin, London.* Edited by Balmanno Squire, M.B., London, Senior Surgeon to the Hospital. 18mo., pp. 80. London: J. & A. Churchill. 1879.

These little volumes have the advantage of containing in small compass, convenient for reference, certain particulars which the prescriber could indeed find in large volumes, but at a loss of time. Besides, the volumes can be carried in the pocket, whenever desired.

The *Pharmacopœia* could easily have been rendered of much greater value by the addition of an index of diseases, in addition to that of remedies, and it is to be hoped that this omission will be supplied in a future edition.

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*Long Life, and how to reach it.* By Joseph G. Richardson, M. D., Prof. Hygiene, Univ. Pa., etc. 16mo., pp. 160. Philadelphia: Lindsay & Blakiston. 1879. [Sold by Armand Hawkins, 196½ Canal street.]

This is the second of a series of American Health Primers, now being published under the editorial direction of Dr. W. W. Keen, of Philadelphia. The object of the enterprise seems to be to popularize preventive medicine, which is eminently praiseworthy, and in this particular volume that intention is admirably fulfilled.

Written by a physician of high reputation, an expert in hygiene, the use of technical words has been entirely avoided, so that it is fully adapted to the comprehension of an ordinary reader. At the same time the selection of subjects for the sixteen chapters of the volume is such as to bring into prominence the most important conditions affecting health and longevity.

It is needless to add that the book is intended for lay readers, rather than medical men, and, though its manifest effect must be the prevention of disease, no true physician will regard it with jealousy. While artisans hold an invention which dispenses with their labor as an intruder and an enemy, physicians must not forget that medicine rests upon science, whose sphere is not only the discovery but also the dissemination of truth. S. S. H.

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*The Cell-Doctrine: its History and Present State. For the use of students in Medicine and Dentistry. Also a copious bibliography of the subject.* By James Tyson, M.D., Prof. Gen. Pathol. and Morbid Anat., Univ. Pa., etc. Second edition, revised, corrected and enlarged. Illustrated. 12mo., pp. 202. Philadelphia: Lindsay & Blakiston. 1878.

This work exhibits great industry and research, embodying in moderate compass a very complete history of the growth of the subject, from Aristotle to the living workers in the field of histology. It is therefore an immense convenience to those interested in its study; for, if not satisfied with the synopsis of different views now and formerly held, the bibliography of 44 pages affords complete reference to all that has been written on the subject.

The views of the author, in the closing section, form a judicious summing up of the present state of knowledge on the cell-doctrine.

In this day of excessive specialization and over production of monographs, we are glad to commend a book of this class, at the same time legitimate in conception and in its substance so meritorious. S. S. H.

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*A Tabular Hand-Book of Auscultation and Percussion, for Students and Physicians.* By Herbert C. Clapp, A.M., M.D., Instructor in Auscultation and Percussion in the Boston University School of Medicine, etc. With 4 plates. 8vo., pp. 97. Boston: Houghton, Osgood & Co. 1879. [Sold by Eyrich, 130 Canal street.]

An introduction gives some general directions for practicing auscultation and percussion; part I contains nine tables, descriptive of the physical signs, both normal and morbid; part

II, containing two tables, teaches the physical diagnosis of diseases of the lungs and of the heart.

This arrangement is convenient by its compactness and its systematic classification for study and for reference, and will be found useful for student and practitioner alike. The work is really to be commended.

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*Harvey and his Discovery.* By J. M. DaCosta, M.D., Professor Practice Medicine, Jefferson Medical College, Philadelphia. 8vo., pp. 57. Philadelphia: J. B. Lippincott. 1879. [Sold by Eyrich, 130 Canal street.]

This volume is an address delivered at the opening of the course of lectures at Jefferson Medical College in 1878. It is a sketch, biographical and critical, of the life and labors of the illustrious discoverer of the circulation of the blood; and renders due credit, in fitting language, to his genius and his services to science and mankind.

## Books and Pamphlets Received.

*The Hand as a Curette in Post-Partum Hemorrhage.* By Henry C. P. Wilson, M.D., Baltimore, Md. Reprint from Vol. III Gynecological Transactions, 1879.

*Conclusions from the Study of One Hundred and Twenty-five Cases of Writer's Cramp and Allied Affections.* By George M. Beard, M.D., New York City. Reprint fron the Medical Record, March 15, 1879.

*Other Symptoms of Nervous Exhaustion (Neurasthenia.)* By George M. Beard, A.M., M.D., Member of the New York Academy of Medicine, of the American Academy of Medicine, of the American Neurological Association, etc. Reprint from the Journal of Nervous and Mental Disease, April, 1879.

*University of Maryland, Seventy-second Annual Circular of the School of Medicine, Session of* 1879-80.

*Ninth Annual Announcement of the Louisville College of Pharmacy, Session of* 1879-80.

*First Annual Report of the Proceedings of the Kentucky Pharmaceutical Association*, 1878.

*Twelfth Annual Report of the Board of Health to the City Council of the City of Dayton, Ohio, for the year ending February* 28, 1879.

*Thirtieth Annual Announcement of the Woman's Medical College of Pennsylvania, Philadelphia, Pa.*, 1879-80.

*Fifty-fifth Annual Announcement of the Jefferson Medical College of Philadelphia, Session of* 1879-80.

*Announcement of the Medical Department of the University of Pennsylvania for the One Hundred and fourteenth Session*, 1879-80.

*A Case of Enterocele Vaginalis, Anterior.* By G. M. B. Maughs, M.D., Professor of Obstetrics and Diseases of Women in the Missouri Medical College. Read before the St. Louis Medical Society. Reprint from the St. Louis Medical and Surgical Journal, May, 1879.

*An Argument made before the American Medical Association at Atlanta, Ga., May 7*, 1879. By Edward S. Dunster, M.D.

*The American Medical College Association, Third Annual Meeting, held at Atlanta, Ga., May 3d and 5th*, 1879.

*A Contribution to the Hæmaturic Properties of Dialysed Iron. Being extracts from communicatiens read before the Boston Society of the Medical Sciences and the Boston Society for Medical Observation.* By Robert Amory, M.D., Longwood, Mass. Reprint from the Boston Medical Journal, April, 1879.

*Minutes of the Meeting of Organization and Proceedings of the Sanitary Council of the Mississippi Valley, May*, 1879.

*Pendulum Leverage of the Obstetric Forceps.* By Albert H. Smith, M.D., Philadelphia. Reprint from Vol. III. Gynecological Transactions, 1879.

*Normal Position and Movements of the Unimpregnated Uterus.* By Ely Van De Warker, M.D., Syracuse, N. Y., Fellow of the American Gynecological Society. Reprint from the American Journal of Obstetrics and Diseases of Women and Children, April and July, 1878.

*Impotency in Women.* By Ely Van De Warker, M.D., Syracuse, N. Y. Reprint from the American Journal of Obstetrics and Diseases of Women and Children, January, 1878.

*Therapeutischer Almanach for January*, 1879. By Dr. G. Beck.

*Dyphthonia Paralytica.* By Ethelbert C. Morgan, A.B., M.D. Late Assistant to Professor Johannes Schnitzler, in the Department of Diseases of the Throat and Lungs in the Poliklinik, Vienna, Austria. Reprint from the National Medical Review, April, 1879.

*Annual Catalogue and Announcement of the Columbia Veterinary College and School of Comparative Medicine, New York, Session of* 1879.

*Pharmacopœia of the British Hospital for Diseases of the Skin.* By Belmanno Squire, M.B., London, Senior Surgeon to the Hospital.

*Posture as a Means of Relief in Strangulated and Incarcerated Hernia, with a General Consideration of the Mechanism of Reduction.* By Frank H. Hamilton, A.M., M.D., Surgeon to Bellevue Hospital, etc. Reprint from Hospital Gazette, June 7th, 1879.

*On Some Points in Connection with the Treatment of Sterility.* By A. Reeves Jackson, A.M., M.D., Chicago, Ill. Reprint from Volume III Gynecological Transactions, 1879.

*Alternating Anterior and Posterior Version of the Uterus.* By Samuel C. Bussy, M.D., Washington, D. C. Reprint from Volume III, Gynecological Transactions, 1879.

*On Nitrogen Iodide.* By J. W. Mallett. Reprint from American Chemical Journal, Vol. I, No. 1.

*Memorial Address on the Life, Character and Death of Dr. John L. Cook, of Henderson, Ky.* By J. W. Singleton, M.D., Paducah, Ky.

*Annual Address on the Relation of Neurasthenia to Diseases of the Womb.* By William Goodell, M.A., M.D., Philadelphia, Pa. Reprint from Volume III, Gynecological Transactions.

*Illinois State Board of Health.* Halmeman College Case.

*The American Academy of Medicine.*

## Meteorological Table—June, 1879.

| Day. | Mean Barometer | Temperature. Maximum | Minimum | Range. | Mean Humidity. | Rainfall. |
|---|---|---|---|---|---|---|
| 1 | 30.014 | 80 | 73 | 7 | 83 | .72 |
| 2 | 30.047 | 78 | 72 | 6 | 76 | 1.52 |
| 3 | 30.096 | 75 | 65 | 10 | 51 | .00 |
| 4 | 30.079 | 76 | 66 | 10 | 52 | .00 |
| 5 | 30.094 | 78 | 69 | 9 | 67 | .01 |
| 6 | 30.002 | 79 | 70 | 9 | 75 | .03 |
| 7 | 29.964 | 78 | 72 | 6 | 83 | .26 |
| 8 | 29.953 | 85 | 73 | 12 | 75 | .14 |
| 9 | 29.915 | 87 | 74 | 13 | 70 | .00 |
| 10 | 29.908 | 88 | 75 | 13 | 72 | .00 |
| 11 | 29.940 | 86 | 75 | 11 | 75 | .00 |
| 12 | 29.945 | 87 | 74 | 13 | 76 | .00 |
| 13 | 29.890 | 88 | 74 | 14 | 75 | .10 |
| 14 | 29.882 | 89 | 75 | 14 | 68 | .00 |
| 15 | 29.872 | 87 | 75 | 12 | 73 | .18 |
| 16 | 29.945 | 88 | 76 | 12 | 69 | .00 |
| 17 | 29.992 | 91 | 76 | 15 | 68 | .00 |
| 18 | 29.998 | 91 | 76 | 15 | 61 | .00 |
| 19 | 29.990 | 90 | 75 | 15 | 57 | .00 |
| 20 | 30.065 | 85 | 76 | 9 | 60 | .00 |
| 21 | 30.120 | 85 | 71 | 14 | 55 | .00 |
| 22 | 30.122 | 86 | 70 | 16 | 61 | .00 |
| 23 | 30.040 | 87 | 72 | 15 | 67 | .00 |
| 24 | 30.002 | 86 | 72 | 14 | 67 | .00 |
| 25 | 30.010 | 86 | 73 | 13 | 65 | .00 |
| 26 | 30.047 | 87 | 73 | 14 | 71 | .00 |
| 27 | 30.020 | 86 | 74 | 12 | 65 | .00 |
| 28 | 29.887 | 88 | 73 | 15 | 69 | .00 |
| 29 | 29.867 | 89 | 76 | 13 | 67 | .00 |
| 30 | 29.910 | 87 | 77 | 10 | 69 | .00 |
| Mean.. | 29.887 | 85.10 | 73.07 | 12.03 | 67.9 | 2.96 |

## Mortality in New Orleans from June 23, 1879 to July 20, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| June 29.. | 0 | 4 | 11 | 0 | 3 | 116 |
| July 6.. | 0 | 4 | 21 | 0 | 4 | 126 |
| July 13.. | 0 | 7 | 20 | 0 | 2 | 105 |
| July 20.. | 0 | 9 | 15 | 0 | 2 | 83 |
| Totals... | 0 | 24 | 67 | 0 | 11 | 430 |

# Louisiana State Medical Society, Annual Session of 1879.

ABSTRACT OF PROCEEDINGS.—*(Continued.)*

## COMPARATIVE PATHOLOGY OF MALARIAL AND YELLOW FEVERS.

BY JOSEPH JONES, M. D.

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| YELLOW FEVER. | MALARIAL FEVER. |
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| stage of the disease, an explanation of the frequent occurrence of albumen casts, detached cells of the epithelium of the uriniferous tubes, and oil globules and granular matter in the urine of yellow fever. | |
| URINARY BLADDER.—As a general rule the bladder contains little or no urine in yellow fever. The urine is of a light yellow color, without any crystalline bodies, and loaded with albumen, granular fibroid matter, urate of ammonia, casts of the tubuli uriniferi, and excretory cells of the kidney. In many cases the urine is entirely suppressed for as long a period as 48 hours before death. So long as the kidneys perform their functions freely and regularly the patient may recover, even though black vomit may have appeared, but if the action of the kidneys has been arrested by structural changes, death is inevitable. | URINARY BLADDER—Often distended, with high-colored urine, free from albumen and casts. In malarial hæmaturia the urine contains casts and blood-corpuscles, and desquamated cells of the tubuli uriniferi. Casts high colored, and often contain colored corpuscles. |

## The Cure of Oblique Fracture of the Thigh Bone without Shortening of the Limb.

By M. SCHUPPERT, M.D.

In simple subcutaneous fractures of the thigh, comprising the shaft of the bone in its middle, upper, or lower third (excepting the neck, the trochanteric region and condyles), the difficulty of recognizing the character of the injury, whether transverse or oblique, is so generally admitted, that it is said "the *age* of a person counts more in establishing a diagnosis than a *manipulation*." That this difficulty increases in fleshy persons, moreover, if traumatic swelling has set in, is obvious. Yet it strikes me, aside of the fact that in the adult, fractures of this bone are more frequently oblique, at least in its upper and lower third, whilst in children the transverse fractures are more common, that the obliquity of a fracture of the femur might be easier recognized by the greater shortening of the limb, as well as by the difficulty of keeping the replaced ends of the fractured bone in position. These two important symptoms ought to render the correct diagnosis less difficult. But whatever the experience of surgeons may be in regard to this question, there certainly exists less diversity of opinion, that in oblique fractures of the femur in middle-aged persons, the healing of the fracture will rarely if ever be accomplished under less than one inch of shortening; yea, rather more than less. Such has been the almost universal opinion, from Hippocrates down to our days. Most all the prominent writers on surgery have acknowledged this fact. It is true a few surgeons, inventors mostly of some complicated machineries or certain contrivances, have pretended to accomplish the cure of fractures of the thigh bone without shortening, yet neither was the character of such fractures always distinctly stated, nor was a shortening inside of a certain extent, which was considered natural, or which could be compensated by a pelvic inclination, counted as a real defect. In the treatment of fractures of the femur, the inventive human genius has exhausted its capacities in the construction of complicated machines and bandages, yet without much influencing the generally adopted opinion, that such fractures could not be cured without a considerable shortening.

The celebrated Dessault, who asserted that he could heal any such fracture without a shortening of the limb, experienced the most violent assaults of his contemporaneous colleagues; he saw his veracity impugned and suffered the loss of confidence in his teachings, so that even Malgaigne, with all the authority of his great name, did not succeed in restoring it, though he stated, what he had witnessed himself, the success of Dessault's skillful treatment. Dessault did not keep his method a secret; any one who wanted to convince himself of it could have done so, and what is more singular, the splint he made use of is at

present still in use, after having experienced some slight modifications, under the name of Physick's or Liston's splint. For extension, Dessault made use of the corresponding leg, whilst for counter extension he availed himself of the os ichii. The majority of American surgeons have adopted this treatment, applying Physick's or Liston's splint, whilst in fractures comprising the trochanteric region the double inclined plane of Amesbury is here and there employed. Dugus, of Georgia, is probably one of the few surgeons who advocated the use of weights in this country, which in Germany is the prevailing method of causing permanent extension, at the same time employing gypsum bandages. Such in Germany is almost the exclusive treatment, foremost in compound fractures, and in order to apply at the same time Lister's antiseptic treatment, openings are made in the plaster bandage.

The historical proofs of Dessault's successful treatment of these fractures were of themselves sufficient inducements for me of a repeated investigation. Professional jealousy and blindness could not forever keep the field; yet what induced me foremost to relinquish the method generally adopted here, and which brought me to pursue another course, were besides the unsuccessful, unsatisfactory issues, two instances of simple fractures of the thigh bone, where at least in one case, from a careless application of the splint, a man had lost his limb, whilst in the other, from an injudicious, stupid action, the life of the patient had been sacrificed. Both cases bear sufficient interest in more than one respect, and most so to the younger members of the profession, which induces me to give a short account of them here. The first case was a sailor, who by falling into the hold of his ship fractured the thigh in its lower third. He had been carried to the pay ward of the Charity Hospital under the immediate charge of the house surgeon. (I will state here, in order to avoid an unjust suspicion, that this happened during 1858, and that the house surgeon mentioned here has since died.) Liston's splint had been applied, but the sailor's complaining to his captain over an unbearable pain in the limb, which complaint the surgeon did not consider justifiable, was the cause of the patient's removal to a boarding house in the immediate neighborhood of my residence, and of my engagement to treat him there. As soon as I had removed the splint, I found that from the pressure of the rope-like band with which counter-extension had been made, and which had shifted from its original position, the femoral artery had become obliterated, certainly an observation of importance, and which elsewhere I have never met with in our literature. The circulation of blood in the extremity had entirely ceased. Gangrene had set in, and as soon as its limit had been ascertained, the limb was amputated in its upper third. Of further interest in this case were two other incidents worth mentioning. On the second night after the amputation had been performed, I was called upon by the night-watch left with the

man, and informed that the patient was "bleeding to death." It was a fearful dark night, the rain falling in torrents, the streets overflown. I had not taken time to dress: grasping my case of instruments (which I always keep ready for an emergency after an operation, and more so, when secondary hæmorrhage may be expected to take place), I ran over the street, through the water knee-deep, dressed but in my night-gown, resembling one of Macbeth's witches; and indeed I did not arrive a minute too soon. The man fortunately had fallen into a syncope from the loss of blood: still I was in a singular plight. The night-watch was a mere boy of 14 summers, and all the illumination I could command consisted of a diminutive oil lamp. When I lifted up the man's stump he awoke, but he was out of his mind, and bleeding began anew. In compressing the artery I observed the bleeding to stop. It would have taken too much time to cut the many sutures, wash and clean the stump, and search for the artery, which under other circumstances I certainly would have done. I resolved therefore to search for the femoral artery in its contiguity as high up as possible. The cutting down upon the artery, the pulsation of which could hardly be felt, and ligating it, was nevertheless the work of a few minutes; it was an operating race between life and death. Happily it was accomplished, and the man's life thereby saved. I afterwards found out that in a fit of delirium the man had pulled on the stump, and unfortunately had gotten hold of the arterial ligature, pulling it off. A pitcher filled with water, which stood on a table by his side, this time saved the man's life. In his delirium he got hold of the pitcher, and smashing it against the wall awoke the sleeping boy, as it probably would have done with one in a death slumber. By this accident the bleeding was detected, and yet in time. This man, after the wound had healed, suffered for several months daily attacks of clonic spasms, which at the beginning returned quite frequently, several times a day, and resisted all medication, but they disappeared gradually after having lasted over two months. When such a spasm came on, the stump took a perpendicular position, and great force had to be applied to keep it down. During such an attack the man complained of pain, which he assigned to different parts of his amputated leg, and nothing would give him rest and bring the stump down to its normal horizontal position, excepting some person would sit in front of the stump on his imaginary extremity. I have often been a witness to this singular idiosyncrasy, and can therefore vouch for the truth of this statement.

The other case of fracture which ended fatally, happened in the Third District of this city. A healthy, robust man, 36 years of age, a cooper by occupation, met with the accident by falling from his cart, by which he fractured his right thigh bone midway of the shaft, but the greater misfortune which befell the man consisted in falling in the hands of a careless and ignorant physician. Being in bed tightly bandaged, the

man suffered excrutiating pain, as he stated, caused by a part of the bandage, still the Doctor had refused to remove it. Another physician was therefore called in, who, by a misapplied professional etiquette though aware of the real condition of things, refused to touch the bandage, except a surgeon was called in consultation. When I arrived, several hours later, this medical Fabius had just returned and told me what had happened. Having cut the rope forthwith, to relieve the poor sufferer, I became horror-stricken by what I saw. With one piece of rope the foot had been tied to the lower part of the bedstead, whilst another piece of rope, which served for counter-extension, was carried between the legs and fastened to the head-piece of the bed. The force which had been made use of to cause extension, might best be learned from the fact that the upper rope had cut into the tissues so deep that I could nearly bury my fist in the hole it made. If the rope had not been hemmed in by the bone it might probably have cut the man in two. The abdominal cavity had been laid open by it. All care taken did not save the poor sufferer's life; he died on his wound becoming gangrenous, a few days later. An intelligent jury appointed by the coroner, a practising physician of this city, gave the unanimous verdict that the man had died from a wound caused by malpractice. The inconsolable widow was too poor to afford paying the expenses of a criminal prosecution, and so the malefactor escaped a deserved punishment. Enough! I hope that the interest involved in these *two cases* will excuse the time spent in their narration, they certainly contain several valuable lessons for the younger members of our noble but, unfortunately, often maltreated and abused profession.

I will now proceed with a description of the method I have adopted in the treatment of fractures of the femur, and small as the number of cases so treated have been (eleven in all), yet the invariable unique favorable result of them, even in the most severe form of a compound fracture, will bear me out in demonstrating that these fractures may be cured without a material shortening of the respective extremity. I will first speak of the treatment of the uncomplicated, subcutaneous, simple fracture, transverse as well as oblique. The patient is placed on a table covered by a mattrass. The latter is doubled, so that sufficient free space is obtained for the application of the bandages around the pelvis and the lower portion of the abdomen. The plate of the table must have a prominent edge, to which is fastened a wooden vise, such as carpenters use, or an instrument invented by the ingenious surgeon, W. Roser, Professor of Surgery at Marburg, and called by him Beckenstütze (meaning a support for the pelvis). This latter instrument is made of iron, it consists of a staff which is fastened to the edge of the table by a screw. To the staff is attached a small movable triangular plate, which can be fastened also by a screw, as it glides up and down the staff and

can be adjusted accordingly, as each case may require. This triangular plate has to support the lower end of the sacrum. Against the staff of the Beckenstütze (pelvic support) which staff is one foot in length, or against the handle of the wooden vise, the perinæum of the patient is pulled by an assistant, whilst the fractured portion of the injured extremity is supported; the other extremity is held by another assistant. The staff serves the purpose of counter-extension during the time the bandages are applied. The patient being thoroughly narcotized previous to beginning the operation, has to be retained under the influence of the chloroform and in this position, until the gypsum bandages of which I will soon speak, are all applied.

After the patient has been brought completely under the influence of chloroform, indicated by a complete relaxation of the muscles, the fractured ends of the bone have to be brought in proper position, wherein they have to be retained by a faithful assistant. This is of great importance. Whilst the perinæum rests against the staff of the pelvic supporter, the fractured extremity is pulled by the foot to an equal length with the other. This has to be superintended by an assistant, who previously has drawn a straight line with ink from one anterior superior spinous process of the illium to the other, and a perpendicular line from the ensiform appendix of the sternum to the symphisis ossis pubis, whereby two right angles have to be formed. If the correct equal length of both limbs has been obtained, then by measuring from each anterior superior spinous process of the illium to the lower end of each internal malleolus, both limbs will present equal lengths. This position obtained, which as I said is of the utmost importance, the bandaging should begin. The limb is first surrounded with flannel, beginning at the foot, including the same and going upwards to the pelvic brim, and as high as the umbilicus. The pelvis and abdomen have besides to be well covered with batting, which ought to extend as far down as the knee joint, including the latter. The tuber ossis ischii corresponding with the fractured limb ought to be well padded with a thick pad of cotton batting, which has to be secured in its place by a few tours of a roller of gauze, since here the greatest pressure is to be exercised, as the point for the counter-extension. Against this pad I place an ordinary wooden splint, including and securing it by the gauze roller, by which the pad is maintained in place. On top of the flannel, at the seat of the fracture, a few narrow splints of *tin*, reaching below the knee, are placed and fastened with the same roller of gauze of about 8 yards in length and 4 inches in width, which has served for the pad and wooden splint. Next in order now is the encasing of these parts with gauze rollers well gypsed, beginning again with the foot. Three layers of these bandages covering each other are sufficient. It is advisable, before the fracture is encased with the gypsed rollers of gauze, to be con-

vinced that the proper length of the limb has been retained, which is executed by the assistant who had taken the first measurement. After the gypsed rollers have been applied, the whole thereby covered receives a thin coat of gypse, secured lastly by an ordinary roller of gauze previously dipped in water. After having given the surface a polishing, by going over the whole with the wet palm of the hand, the patient is pulled back and laid on the mattrass, but without moving any part out of the horizontal position which had been maintained during the application of the dressi ıg; care should also be taken that the gypsum bandages do not cut into the skin in the inguinal region, which very frequently happens, and can be best avoided by placing there some additional batting. The gypsed gauze bandages are from 3½ to 4 inches in width and 4 yards long, and the flannel bandages of the same width with a length of 6 yards. The gypsed rollers are prepared by spreading the calcined gypsum over the gauze equally. Before being used these rollers are placed in a basin of water, deep enough to completely submerge them; they have to be thoroughly saturated before being used. The first dressing can be permitted to remain on for two or three weeks, before being exchanged for another of the same kind. At its first removal a careful measurement has to be made again to ascertain the proper length of the extremity, in order to remedy, in case there should have happened a shortening, which can at this time still be corrected, the fracture not having become consolidated. The patient has to be narcotized at each dressing until the consolidation of the fractured bone has been obtained. I seldom have had need of more than three dressings. The last one may remain on four weeks. The time consumed, from the first application to the last, is from eight to ten weeks. I have been particular in describing so minutely the application of this dressing, because I am convinced that mistakes, thought probably to be trifling, may yet alter the final result materially.

We ought to wonder why a treatment so simple, which we might say would promise these admirable results by *a priori* reasoning, has not been tried to a greater extent or become the standard treatment long ago? Yet this seems to me only one proof more of a common observation, that the simplest things are often longest kept from the searching, investigating eye of even the highest scientific culture. How has not the inventing mind been tortured with the construction of complicated machines, in the treatment of club-foot for instance? Looking in one or the other of those pictorial surgical atlasses of olden times, have we not to wonder at the complicated machines, large magazines could be filled up with, and did they ever accomplish what we are able to effectuate to day, and with the simplest means, a bandage and a handful of calcined gypsum? It is only a few years since that I saw, during the meeting of the American Medical Association in

this city, a surgeon of New York, who occupies a prominent position, present to the members assembled a shoe with fixings which he considered as the ne plus ultra of all similar contrivances to correct the malformation of a congenital club-foot. Hecatombs of eulogies were offered at the shrine of surgical science a few decennies since, when Stromeyer introduced into surgical practice as an invaluable progress in the cure of club-foot, the subcutaneous dissection of the tendons; but how rarely need we to-day have recourse to that operation, provided the children so affected are taken care of soon after their birth? A few bandages of gypsed gauze is all I am using for years to restore to their proper shape the worst cases of congenital club-foot; seldom, and exclusively in elder persons, do I have recourse to the knife.

From what we find in handbooks and journals on surgery as documentary evidence, the opinion seems to be generally adopted in this country, as well as in others, that fractures of the femur could not be cured without a shortening of the limb. Since the time that I began to make use of the calcined gypsum (or as it is commonly, but improperly called, plaster of paris), in surgical practice, supplanting therewith all machines and other mechanical contrivances in the treatment of fractures, dislocations and in orthopædics, extending over a time of nearly two decennies, I have treated 7 cases of simple oblique fractures of the thigh and 5 cases of compound fractures of the same bone, and have, with the method described above, with but a single exception, obtained a complete cure without any shortening of the limb. Never did I observe in the extremity so treated, in comparing it with the other, a difference in length. Even that exceptional case was finally cured with a shortening of only one half an inch. A too early and careless use of the limb and an unlucky fall by which the bone fractured again, so that a proper apposition of the fractured ends had become impossible, resulted in this shortening. The result obtained in those five cases of compound fracture entitles me, I believe, to recommend a mode of proceeding, which may appear to some, who are even apt scholars of Lister, a little hazardous, yet if I at first hesitated to give it a practical application, I am at present no longer doubtful. In compound fractures of the femur the first eight or ten days are to be exclusively bestowed to the treatment of the wound. Having readjusted the fractured ends of the bone as much as possible, after a thorough scrupulous cleaning and irrigation of the wound with a carbolic or salicylic acid solution, Lister's dressing is applied and covered with a thick layer of cotton batting. The whole dressing is then surrounded with gypsed rollers of gauze, and upon this a sufficiently thick layer of the calcined gypsum previously made into a paste, is spread, so that an *occlusive, absolute air-tight bandage is thereby obtained.* I have here also, like in other wounds, done away with the spray and the drainage tubes. In eight or ten days after the traumatic swelling has disappeared the proper

adjustment of the fractured ends has to be attended to, after which another occlusive bandage is applied. In this manner I have at present a man under treatment over one of whose legs the wheel of a cart with 3000 pounds had passed. The bones were crushed to pieces, and in the gaping wound large enough to admit a small fist the muscles and tendons were observed denuded and lacerated. The man, 46 years of age, and much addicted to whisky, had lost a great deal of blood. After a thorough cleaning of the extensive wound and an irrigation lasting one-half hour, the leg was dressed in the manner described, after the edges of the skin had been brought together as near as possible by the application of nine antiseptic silk sutures. It is eleven weeks since the accident happened; on the fourth day the man suffered an intense attack of mania-a-potu, which lasted a whole day and requiring three men to hold him down, the bones became displaced again, and in removing the dressing were met with sticking out of the wound. Notwithstanding that all this happened, the patient never suffered the least fever, the pulse and temperature remained all the time stationary normal. The extensive wound has nearly closed, and consolidation of the crushed bone has taken place. A better and more convincing example of what we may dare under the aegis of the occlusive bandage, can hardly be found. An injury of such frightful character, which under any other circumstances would call for an immediate amputation, passing away without any of those symptoms, which in former times we were often apt to meet with in wounds of even a more trifling nature, is unheard of in surgical practice. The question arises now, have I a right based upon such a comparative small number of cases as I have treated, to claim for my method of treatment that superiority in practice, which would entitle it for recommendation, placing myself thereby in opposition to the judgment rendered by so great a number of intelligent and experienced surgeons? I am under the impression that I have acquired the right to answer the question in the affirmative, and I believe to be supported in this from the uniform result I have obtained in the treatment of oblique as well as transverse fractures, to which also the compound fractures form no small contingent, and which comprise the thigh as well as the leg and arm.

## APPENDIX.

In the report of the progress of Aantomy and Surgery during 1877, Dr. M. Murty, of Danville, Ky., says: "The statement is justified that with the most approved methods of treating fractures of the femur, shortening is the rule in practice."

In the Archives of Clinical Surgery of February 1877, Dr. Jarvis S. Wright asserts "that after an examination of many persons, embracing various nationalities and occupations, he has come to the conclusion that the lower limbs of the same

person are not always of the same length. The difference in length being $\frac{1}{8}''$ to $1''$;" from which the writer concludes "that it would be impossible to say how much in a united fracture a leg or the broken femur has shortened, if the uninjured limb of the person be made the standard of comparison, and that a correct and reliable conclusion would only be reached in a case in which the injured limb had been measured before and after the injury." He further states "that in a certain number of cases of fractures of the femur the injured limb will remain shorter than the other, *no matter what treatment may have been used.*"

In the session of 1877 of the American Medical Association, in the section on Surgery and Anatomy of which Dr. Hamilton of New York was chairman, a paper was read by Dr. J. F. Hodgen of Missouri in which he, in the treatment of fractures of the femur, "detailed the advantages of Smith's Anterior Suspensary Splint, modified by him, as superior to all other appliances" and in the same session Dr. Hingston of Canada offered a resolution, which was modified by Dr. Peck of Iowa and which, singular to say, was adopted as the standard opinion of the American Medical Association and published in the form of a resolution which reads as follows:

*Resolved*, "*That it is the opinion of this section, that shortening in cases of fracture of long bones, is the rule in practice, regardless of any of the plans of treatment now in use.*"

The report of the Danville doctor I have cited, but, for the purpose of proving by it the general standard of opinion in regard to the ultimate result of treatment of fractures of the thigh.

Of not less interest is the statement of Dr. Wright, regarding the congenital difference in length of the lower extremities of man. It is obvious, that if the statement, which, besides I have never before met with in surgical literature, was based upon a correct observation, it would be of great importance in more than one respect. From the time that I first saw that remark, I have not missed an opportunity of measuring the lower extremities of persons, of different nationalities, race, sex and age, and have come to the conclusion that, if a disease had not previously existed, the difference in length which Dr. Wright asserted, had only an existence in the imagination of the doctor, being the result of a faulty measurement; indeed, a difference in length of one inch, or even half an inch would certainly cause limping, and if not compensated by a pelvic inclination, would be recognized without taking a comparative measurement. It is only in a proper execution of the methods above described, that such mistakes can be avoided. Unless the person stands on level ground and upright, and a plumb extended from the ensiform process of the sternum is applied, no correct measurement can be obtained, and errors will occur. By a pelvic inclination one one side, an artificial shortening can be produced on the other to the extent of even

two and a half inches. With the defeat of this assertion of the doctor, his other remarks based upon this statement are, as a matter of course, worthless. Though in the matter of shortening, he seems to be more liberal than his confreres of the American Medical Association, confining his remark to only a certain number of fractures of the femur, though he also commits an error in calculo in taking *pars prototo*.

A more difficult task I will have in dealing with the snap judgment (?) contained in the mentioned resolution of the American Medical Association. Yet I cannot help declaring the resolution as it stands, lacks a solid foundation. It grasps far too much at once. It asserts, what can easily be disproven; it protects unskilfulness and even excuses malpractice. All this and more may be anticipated in the foregoing specification of what I have stated in the treatment of fractures of the thigh. Nevertheless, I am fully aware of the difficult position I occupy in a matter supported but by a single personal experience, where neither immutable laws can be cited, nor logic assist an assertion, which is in opposition to the majority of the profession, of men of high standing, of great scientific attainments. With no witnesses or *corpora delicti* available, and with the fate of Dessault on record, what auspices can be augured under such a constellation? We know in the treatment of certain injuries how much depends often upon personal skill, how much upon a proper minute execution of things apparently of small matter.

In spite of the most minute description, errors in manipulation may happen. Need I refer to the various results surgeons have obtained with Lister's antiseptic treatment? What would the naked assertion help me, of having cured eleven fractures of the thigh without a single shortening of the respective limb, if some surgeons, though by mistakes of their own, would meet with failures? might that not jeopardize the method or, upon which I lay more stress, impugn my veracity? In this emergency I see but one way to get out of the dilemma, and this consists in placing the author of this method on trial; not till then, if he has signally failed in producing the promised result, ought he to pay forfeit.

This is in equity the right which I can demand; all else is but equivocation and not worth further consideration.

## Topography of the Parish of Plaquemine and its Medical History.

By D. R. FOX, M. D.

The parish of Plaquemines is situated in the lowest portion of the State of Louisiana, latitude 29°, 30′ north, longitude 14°, 55′ west of Washington.

It consists of a narrow strip of land, bordering both sides of the Mississippi river, and extending from the mouths of the river to within twelve miles of New Orleans—a distance of about eighty-five miles. The arable land is very narrow; in the upper portions of the parish, it averages about ten arpents in depth, without artificial drainage, and about twenty with drainage.

As it approaches the outlets of the river, this gradually narrows to a strip of one or two arpents in depth.

These lands are low and would be inundated by the annual rise of the river, were they not protected by artificial embankments or levees. These levees vary from one to seven feet in height. About three miles from the river, in rear of the plantations there are bayous or natural canals, into which the fields are drained. To prevent the water from flowing back from these during high tides, the plantations are protected by low back levees.

The population of this parish is about thirteen thousand, one-third white, the remainder colored.

It will be readily inferred from the low and marshy situation of this that the malarial fevers predominate; the most common being the intermittents, which are generally quotidian or tertian in type. These fevers are mostly of a mild character, though a few cases of pernicious fever are met with every year. Until the last two or three years, the remittent fevers were also of a mild type, the average duration not being over two or three days. Within the past few years the cultivation of rice has been much extended, and the remitting fevers have assumed a more severe grade, the febrile stage being much longer.

As far as my experience goes, the colored population, before the war, were more sickly than at present, being more subject to fever, which I attribute to the different system of labor. On some of the larger plantations I have frequently met, in a single day, in one hospital, from fifteen to thirty cases; while at present, not one-fifth that number are sick at one time.

Typhoid fever is seldom met with here:—in twenty-five years, I have not seen more than ten or twelve cases of genuine typhoid.

Until the summer of 1878, *yellow fever* was almost unknown in this locality. In 1853 and 1854, a few cases occurred in one or two families in the Buras settlement and its vicinity, but it did not spread.

In my own practice, extending over a period of twenty-five years, only about 12 or 13 cases have occurred.

During the great epidemic in New Orleans in 1853, I had only two cases here, notwithstanding the constant intercourse with the city; there being no quarantine whatever at that time. In 1854 I had only six cases, all occurring in one family and all of whom recovered excepting one, who died with black vomit. This family was of the Creole population. In 1867, a young Creole who had been to the city and spent several days during

the epidemic, returned home with yellow fever and *died*, but no other member of the family had it, neither was there any other case in the neighborhood. In 1868, a northern gentleman is said to have died of this disease, on a neighboring plantation. As far as I have been able to ascertain, no other cases than those above mentioned occurred previous to 1878. During that year, the upper portions of the parish continued remarkably free from fevers of every kind, until the latter part of August, when many cases of bilious remittent fever and a few cases of yellow fever occurred. The yellow fever was confined chiefly to unacclimated persons who were recently from the North.

The disease also made its appearance at the jetties, the Buras settlement, and on several plantations in the lower part of the parish, and attacked chiefly foreigners, and proved very fatal.

I mention these facts in regard to yellow fever to show how peculiarly exempt this parish is from this *disease*.

Malarial hæmaturia is also a very rare disease here; as far as I know, only a few cases, and those within the past few years.

Exanthematous diseases are rare in this locality; *scarlet fever* has never prevailed as an epidemic; I have met with a few isolated cases of very mild character. Of *measles* there have been but few epidemics, and they were very mild. *Small-pox*, previous to the war, owing to the strict attention paid by planters to vaccination, was very uncommon. Since 1865, owing to the great influx of strangers, both white and colored, the disease has been more frequent and fatal. Large numbers of negroes have died of it on several plantations. Although the number of children is very large, *diphtheria* is very rare here. In my own long practice, I have only met with about six cases.

*Dysentery* is a disease of frequent occurrence, and prevails on the plantations, sometimes as an endemic, brought on by various local causes. It approaches more in character the disease as seen in the tropics, than elsewhere, and is often complicated with malaria.

*Diarrhœas* also prevail during some seasons, and often assume malarial forms.

*Cholera* has frequently occurred, prevailing as an endemic among the colored population. In 1832, it proved very fatal to both races. In 1853, there were a few isolated cases (colored) on the Magnolia plantation, and in the Ronquillo settlement. In 1866, there was a severe endemic among the colored people on the Scarsdale plantation, in which 18 out of 40 died; also a few cases occurred on the plantation on the opposite side of the river.

*Charbon*, or malignant pustule, is a disease peculiar to this portion of the State. In 1853 I saw six cases of it, all on one plantation, supposed to have been produced by a pile of hides, the skins of animals which had died of charbon the previous spring. The hostler was the first one attacked; he had been

cutting ham strings from the hides. Persons living in the cabins near the hides were next attacked; no other cases were observed in any other of the cabins of the plantation.

A disease has frequently occurred here among the domestic animals, which is called charbon, which appears to me to be rather a species of epidemic phlebitis or erysipelas, and is very malignant and fatal. It seems to be brought on by the bites of the innumerable insects with which the parish is infested—such as mosquitoes, and a variety of small black fly resembling the house fly in appearance, and which, like the mosquito, sucks the blood of animals; it is generated in immense swarms in decaying rice straw and bagasse.

Syphilis, before the war, was very rare among the colored race; which was owing to the strict surveillance and perfect control of the slave. Whenever a case appeared upon a plantation every precaution was taken to prevent a spread of the disease. But at present there is scarcely a plantation or colored village in which it does not exist.

Before closing my observations on the diseases of the parish, I would call attention to a fact worthy of notice and which sustains the observations of others, viz: that land covered by water is free from malarial diseases.

In 1858, a portion of the parish on the right bank of the river was inundated about fifty miles in extent, by crevasses above the city, which continued about five months. It was the most remarkable inundation ever known in this part of the State; the water reached the base of the levees in a few days after its appearance in the rear of the plantations; it gradually rose until it was from two to four feet deep at the levee, gradually increasing to a depth of fourteen feet inside the back levees of the fields, a distance of about fourteen acres from the front.

About the middle of August, the water began to subside: during the time it covered the land there was *no sickness* whatever, but, after the water had disappeared, in late September and in October, there were many cases of pernicious fever, and at the extremes of the inundated district a severe endemic malarial pneumonia occurred on two plantations, which was extremely fatal.

I must not close the medical history of this district without mentioning that, in 1875, a parish association was organized with Drs. J. B. Wilkinson for President; D. R. Fox, Vice-President; and Geo. B. Hayes, Secretary, to whom the Society owes much for his untiring efforts for its existence.

After a few meetings, all the regular physicians of the parish had joined the association; a resolution was then passed that the secretary be instructed to communicate with all the other Medical Associations of the State, inviting them to coöperate with us in calling a convention of the medical profession of the State, to organize a *State Medical Society*. To this invitation the Shreveport Association promptly responded, and through

the united efforts of these two societies, a medical convention was called to meet on the 14th of January, in New Orleans, which resulted in the establishment of the *State Medical Society* of Louisiana.

## Magnetism as an Anæsthetic in Surgical Operations.

By DR. E. L. DAY, Hempstead, Texas.

The subject of this article was suggested to me from a case reported by Dr. C. L. Legreud, of Hempstead, in this State, a case in which he amputated the great toe while the patient was under the influence of magnetism, and of which I send you a succinct account, begging the Journal will deliver its opinion of this interesting case.

Willis Francis, colored man, about 25 years of age, had great toe badly injured by having heavy iron rollers fall upon it. About ten days after injury consulted Dr. Legreud, who decided to amputate, and as an experiment, called upon Mr. James Armstrong, of this place, who claims the power of magnetization, to exercise this influence on his patient. The magnetizer commenced by passing his hands slowly and steadily in front of patient's face for a period of five minutes, when he closed his eyes as though in sleep. The doctor then performed the operation, the patient remaining all the while in a state of complete anæsthesia. By simply snapping his fingers sharply in the patient's face, the influence was removed.

[The above phenomenon is commonly called Mesmerism, and is fully described and explained by Dr. W. B. Carpenter, in his work on Human Physiology, being entitled by him Artificial Hypnotism.—ED.]

## TREASURER'S REPORT.

NEW ORLEANS, La., July 28, 1879.

Treasurer in account with the Louisiana State Medical Society from April 14, 1879, to date:

DR.

| | |
|---|---|
| To balance brought forward from last year..... | $152 45 |
| To cash received from 51 members, present year... | 255 00 |
| | $407 45 |
| To balance due by delinquent members..... | $310 00 |

CR.

| | |
|---|---|
| By expenses to July 12, 1879 | $110 60 |
| By expenses for printing as per bill rendered by L. Graham, on July 14, 1879 | 200 00 |
| | $310 60 |
| Balance on hand July 28, 1879 | $ 96 85 |
| Balance due by members | 310 00 |

GEO. K. PRATT, M.D., *Treasurer.*

## SECRETARY'S REPORT.

NEW ORLEANS, April 7th, 1879.

It having been made the duty of the Corresponding Secretary to keep a record of all the local medical societies in the State, and also a list of the practising physicians, classified as regular, irregular, and unknown or doubtful, I would respectfully submit the following report in compliance therewith:

The Bienville Medical Society was organized by a meeting of the physicians of Bienville parish at Sparta on May 25th, 1878. Seven medical men affected the organization by adopting a constitution and electing Dr. F. Courtney, president; Dr. W. C. Patterson, vice-president; and Dr. T. J. Fouts, recording and corresponding secretary and treasurer. The meetings take place at Sparta on the second Saturday of June, September, December and March.

The Shreveport Medical Association was formed in January, 1866. The officers for the present year are Dr. D. M. Clay, president; Dr. A. A. Lyon, vice-president; Dr. D. H. Billieu, corresponding secretary; and Dr. Walter Hilliard, recording secretary and treasurer.

There is a medical society at Baton Rouge, of which I have no returns.

A medical society was organized in Grant parish near the close of 1877, but I am not informed of its further progress.

The Lafayette Medical Society was organized in June, 1877, and holds its meetings at the Court House in Vermilionville, on the last Saturday of each month. The officers, at present, are as follows: Dr. J. D. Trahan, president; Dr. H. D. Guidry, vice-president; Dr. W. H. Cunningham, secretary; Dr. A. Gladne, treasurer. There are six other members.

The Orleans Parish Medical Society was organized in April, 1878, and has at present about 45 actual members. Meetings occur on the last Monday of each month. The lately elected officers are as follows: Dr. S. S. Herrick, president; Dr. Geo. K. Pratt, first vice-president (for First and Fifth Districts); Dr. E. S. Lewis, second vice-president (for Second and Third Districts); Dr. J. P. Davidson, third vice-president (for Fourth

Sixth and Seventh Districts); Dr. D. Jamison, corresponding secretary; Dr. A. B. Miles, recording secretary and treasurer.

Another organization, known as the New Orleans Medical and Surgical Association, was founded in December, 1873, by the junior members of the profession. It has had a very successful career, and now includes, in about 40 active members, some of the oldest practitioners in the city. A considerable number of its members belong also to the Orleans Parish Society. Its meetings occur every Saturday evening, except during the summer months, when they take place monthly. As this association has not adopted the Code of Ethics of the American Medical Association, it can have no affiliation with that body nor with the State organization.

The Plaquemine Parish Medical and Surgical Association was organized November 15, 1875. The present officers are Dr. J. B. Wilkinson, president; Dr. D. R. Fox, vice-president; Dr. Geo. A. B. Hays, secretary and treasurer. It has nine members (all the regular physicians in the parish), and meets at Pointe à la Hache at irregular intervals, from four to eight times a year.

I am informed that a medical society exist in Pointe Coupeé parish, but have no particulars of its organization.

The Medical Association of the parish of St. Landry was organized in 1861, with a charter from the Legislature. Dr. Alexander Donald was secretary in January, 1878. No report has been rendered to me.

The above constitutes all that I have learned of the local medical societies in Louisiana, though I have made inquiries of physicians in all parishes where such bodies were said to exist.

ADDENDUM.—April 8, 1879.—Since the above was written, I have been informed of the recent organization of the New Iberia Medical Association, in the parish of Iberia. The officers elected are: Dr. Alfred Duperrier, president; Dr. G. J. Colgin, vice-president; Dr. J. G. Mestayer, treasurer; Dr. L. G. Blanchet, secretary.

Also of the Medical Society of Ascension, organized in March, 1879, with Dr. John E. Duffel as president, Dr. Vaudergriff as vice-president, and Dr. John E. Duffel, Jr., as secretary.

The Iberville Medical Society was organized in March, 1878. The present officers are J. P. R. Stone, president; A. B. Snell, secretary. Members: S. D. Schwing, R. Schlater, P. S. Postell, M. J. Lehman.

The fellowing classified table of medical practitioners in Louisiana has been compiled from the best sources of information at my command, and at best is only an approximation to completeness and correctness. The arrangement is by parishes.

| Parish. | Total No. | Regular. | Irregular | Unknown or Doubtful. | Died in 1878. | Remarks. |
|---|---|---|---|---|---|---|
| Ascension | 14 | 10 | 3 | 1 | 1 | |
| Assumption | 14 | 12 | .. | 2 | 1 | |
| Avoyelles | 25 | 16 | .. | 9 | .. | |
| Bienville | 17 | 11 | .. | 6 | .. | |
| Bossier | 12 | 12 | .. | .. | .. | |
| Caddo | 32 | 29 | 2 | 1 | .. | |
| Calcasieu | 8 | 6 | .. | 2 | .. | |
| Caldwell | 10 | 4 | .. | 6 | .. | |
| Cameron | .. | .. | .. | .. | .. | No Report. |
| Carroll | .. | .. | .. | .. | .. | No Report. |
| Catahoula | 18 | 17 | 1 | .. | 1 | |
| Claiborne | 9 | 8 | .. | 1 | .. | |
| Concordia | 6 | 4 | .. | 2 | .. | |
| De Soto | 14 | 14 | .. | .. | .. | |
| East Baton Rouge | 23 | 23 | .. | .. | .. | |
| East Feliciana | 26 | 26 | .. | .. | 1 | |
| Franklin | 14 | 12 | .. | 2 | | |
| Grant | 10 | 5 | .. | 5 | | |
| Iberia | 13 | 12 | 1 | .. | .. | |
| Iberville | 11 | 11 | | .. | .. | |
| Jackson | .. | .. | .. | .. | .. | No Report. |
| Jefferson | 8 | 6 | 1 | 1 | .. | |
| Lafayette | 19 | 16 | 1 | 2 | .. | |
| Lafourche | 13 | 11 | .. | 2 | 1 | |
| Lincoln | 17 | 13 | 2 | 2 | .. | |
| Livingston | 5 | 5 | .. | .. | 1 | |
| Madison | 13 | 12 | .. | 1 | 2 | |
| Morehouse | 18 | 16 | 2 | .. | .. | |
| Natchitoches | 19 | 18 | 1 | .. | .. | |
| Orleans | 287 | 195 | 61 | 31 | 8 | |
| Ouachita | .. | .. | .. | .. | .. | No Report. |
| Plaquemines | 13 | 9 | 4 | .. | 1 | Removed 1. |
| Pointe Coupee | 16 | 15 | 1 | .. | 1 | |
| Rapides | 16 | 16 | .. | .. | .. | |
| Red River | 8 | 4 | 2 | 2 | .. | |
| Richland | 12 | 12 | .. | .. | .. | |
| Sabine | 7 | 5 | 1 | 1 | .. | |
| St. Bernard | 1 | 1 | .. | .. | .. | |
| St Charles | 1 | 1 | .. | .. | .. | |
| St. Helena | 9 | 8 | .. | 1 | .. | |
| St. James | .. | .. | .. | .. | .. | No Report. |
| St. John Baptist | 2 | 2 | .. | .. | .. | |
| St Landry | .. | .. | .. | .. | .. | No Report. |
| St. Martin | .. | .. | .. | .. | .. | No Report. |
| St. Mary | 15 | 15 | .. | .. | 1 | |
| St. Tammany | 5 | 3 | 2 | | .. | |
| Tangipahoa | 11 | 8 | 2 | 1 | 3 | |
| Tensas | 12 | 11 | 1 | .. | .. | |
| Terrebonne | .. | .. | .. | .. | .. | No Report. |
| Union | 22 | 13 | 6 | 3 | .. | |
| Vernon | 5 | 5 | .. | .. | .. | |
| Vermilion | 8 | 4 | 1 | 3 | .. | |
| Washington | .. | .. | .. | | .. | No Report. |
| Webster | 10 | 7 | 3 | .. | .. | |
| West Baton Rouge | .. | .. | .. | .. | .. | No Report. |
| West Feliciana | 10 | 10 | .. | .. | 1 | |
| Winn | 4 | 4 | .. | .. | .. | |
| Grand Total | 862 | 677 | 98 | 87 | 23 | |

S. S. Herrick, M.D.,
*Corresponding Secretary.*

NOTE.—*Committee on Scientific Essays.*—Dr. C. J. Bickham, chairman of the above committee, announces that, in addition to the papers already mentioned in the Transactions, as having been promised for the next annual meeting, the gentlemen whose names are given below have also promised contributions upon the following subjects:

Dr. M. Schuppert, "On Morbus Coxarius."

Dr. A. B. Snell, 1st, "On the Conservative Influence of Disease;" 2d, "The Medical Profession and the Public; Where the Obligation Rests."

Dr. Thos. Layton, "Contribution to the Study of Glossitis."

## Explanatory Remarks of the Committee on Permanent Organization.

These regulations are the result of the study of the Constitution and By-Laws of more than twenty (20) State Medical Societies, especially of those which are the oldest and most successful.

The great length of these regulations is deemed objectionable, but was found unavoidable in accomplishing the following objects, viz: to embrace in these regulations all points which were frequently repeated in other societies, or which seemed to be manifestly desirable. Great brevity is usually followed by frequent repeals, amendments and changes leading to confusion. Further, great explicitness seemed eminently proper in the regulations of a society which is to meet only once a year, and to be composed of members not familiarized by frequent meetings with their duties.

Effort has been made (apparently for the first time) to establish an easily understood connection between a Constitution and its By-Laws, and to subject these to a simple system, in such manner that the Constitution should express the fundamental requirements, while the By-Laws should contain the detailed regulations for the execution of these requirements, and also all such regulations as expediency may require should be easily altered. Hence, a *full* knowledge of each subject requires that the *corresponding* Articles in the Constitution and in the By-Laws should both be read one after the other. This arrangement facilitates reference to special subjects, and provides a proper place for the interpolation of all future changes.

Among other points worthy of note are the following, viz: The duties of officers and committees are detailed at unusual length, so as to guide the inexperienced in the proper discharge of their duties.

The objects of the Society are specified at length, and standing committees established especially to promote these objects.

Proper prominence is for the first time given to the paramount object of a State Society, viz: To State medicine, which cannot be promoted except through efficient organization of

the entire profession of the State. Hence great prominence is given to the organization of the profession, by a standing committee on this subject, and by regulations for organizing affiliated societies, and for the recognition of their members by the State Society.

A State Society should be exclusively *representative;* as this is, at present, unpracticable, permanent members are provided for, but only for such time as delegates may become sufficiently numerous to sustain the society.

An attempt is made to render each newly elected president responsible for the work to be done during the session he is to preside over.

An attempt is made to render vice-presidents responsible and actively useful officers, instead of being idle recipients of honors.

An attempt is made to protect the funds of the society from waste, and the transactions from discredit, by strictly regulating the articles to be published. The experience of all other societies proves that strict regulations of some kind on this subject are indispensable.

To the regulations of the Louisiana State Medical Society are appended a code of regulations recommended by said society for adoption by parish societies.

The committee recommends that the regulations now submitted be adopted temporarily, and be published for the careful criticism of the members, but not be finally acted upon before the next annual session. In the mean time special attention is solicited to the regulations of the Medical Association of the State of Alabama, and to consideration of the question whether these regulations should be engrafted upon or substituted for those now presented by this committee. The Alabama society is the most prosperous and efficient one in the Southern States, and its success is attributed in a large degree to its Constitution of 1873. The peculiarities of this Constitution are as follows:

There are four classes of members, viz: Counsellors, delegates, members, and corresponding members. The last are more usually designated honorary members, and present nothing peculiar. The remaining three classes of members deserve consideration.

The counsellors constitute the greatest peculiarity and are the sustaining strength of the society. They possess all rights, except that they can never serve as delegates; *they alone can be elected to office;* they are limited to one hundred in number; they are elected for life by the counsellors, and the delegates; *they must promptly pay* $10 *annually*, and attend at least one annual session in every three years; and in case of failure or neglect to discharge their duties to the society, their names are at once stricken from the rolls. Thus, this society must prosper as long as there can be found in Alabama one hundred physicians with sufficient pride in their profession and in their

State, to contribute $10 each per annum, and to otherwise sustain a State Medical Society.

Delegates.—Two are allowed from each county society; they have all rights, except that they cannot hold office; they pay a fee of $5 each; and must bring from the society represented a fee of $1 for each member thereof for the treasury of the State Society.

Members.—Every member of a county society is a member of the State Society; with a right to a seat and to discussion, but he can neither vote nor hold office.

A board of ten censors constitute a committee on the organization and general welfare of the society; it is a court of impeachment for all offenses; it examines the annual official accounts, and makes an annual report. Under the State laws it is a State Medical Examining Board, and a State Board of Health. Two are annually elected to serve for five years, and the one elected chairman serves as such throughout his term. The number present at an annual session constitutes a quorum.

All officers are elected annually, except the censors, secretary and treasurer, who are elected for five years. All officers are elected by ballot, *and without nomination.*

"The president shall submit to the Association at every annual session an annual message devoted to the discussion of the interests, objects, and business of the Association."

"He shall, every year, appoint regular reporters on the diseases, surgery, topography and climatology of the different parts of the State; and on such other matters of professional interest as may, in his judgment, require investigation. The same person shall not be eligible for the presidency for two successive terms."

The secretary is ex-officio chairman of the Publishing Committee, and the society pays the necessary expenses of both the secretary and the treasurer, in attending the annual sessions.

County societies are organized under the general control of the State Association. Each county society must contribute annually $1 for each member; must forward an annual report; must submit any specially meritorious essay or paper reported to it, and must have a Board of three Censors. This county Board of Censors is required to register and publish the names of all reputable physicians in the county, and members are prohibited from consultation with any others—to examine on their preliminary education all persons who propose to study medicine, and members are prohibited from accepting, as a medical student, any person who has not been thus satisfactorily examined; and also to examine every person who comes in the county to practice medicine, and members are prohibited from recognizing, as physicians, any persons who have not passed a satisfactory examination before either the County or the State Board of Censors.

The State Association has appellate jurisdiction in all trials before county societies.

# REGULATIONS

OF THE

# LOUISIANA STATE MEDICAL SOCIETY.

## CONSTITUTION.

### PREAMBLE, TITLE AND OBJECTS.

The Louisiana State Medical Society, reorganized January 15, 1878, shall have for its objects:

(1) The union in this Society of all the reputable members of the regular medical profession in the State, and coöperation with the medical profession throughout the United States, in sustaining the American Medical Association;

(2) The advancement of State Medicine, *i. e.*, of Public Hygiene (or Preventive Medicine), of Medical Education, of Medical Jurisprudence, and of Public Institutions for the sick, and the infirm;

(3) The cultivation of medical knowledge, and particularly of such parts thereof as may be of special importance to this State;

(4) The elevation of professional character and attainments, and the promotion of the welfare, in all matters relating to medical science, of the profession, and of the public.

### ARTICLE I.

*Mode of Government.*

SECTION 1. This society shall be governed by such regulations as shall be specified in its Constitution, By-Laws and Ordinances (or Resolutions;) and, as to matters not so specified, it adopts the Common Parliamentary Law and the Code of Ethics of the American Medical Association.

SEC. 2. Any suspension or alteration of the Constitution shall require a unanimous vote, unless proposed in writing at a preceding annual session, in which case a vote of two-thirds of the voting members present shall be required; provided that an amendment, germane to the subject, shall be in order, and may be adopted, though not submitted, at a preceding annual session.

The By-Laws may be suspended or altered by a vote of two-thirds, and the ordinances by the vote of a majority at any regular meeting.

### ARTICLE II.

*Members.*

SECTION 1. (Qualifications.) Every physician to be a member of this Society, must be (1) a graduate of a reputable med-

ical college, (2) socially and professionally in good repute, (3) obedient to the Code of Ethics, and (4) a subscriber to the regulations of this Society.

SEC. 2. Men of worth and culture, occupied in pursuits calculated to directly promote the objects of this Society, may, though not graduates in medicine, be elected members of this Society.

SEC. 3. There may be five classes of members, viz: (1) Delegates, (2) Permanent Members, (3) Associate Members, (4) Honorary Members, and (5) Members by Invitation; provided that whenever more than one-half of the parishes of this State shall each have an Affiliated Medical Society, and shall be represented in this society by not less than one hundred delegates present at the annual session. A majority of said delegates shall have the power to prohibit the election of any additional permanent members.

SEC. 4. All members shall have the right to take part in the proceedings, but only delegates and permanent members shall have the right to vote.

Honorary members and members by invitation shall not be assessed.

SEC. 5. (Delegates.) Every Affiliated Medical Society, State Medical College, and State Medical Institution—in this State and in good standing—shall have the privilege of appointing one delegate, and one additional delegate for every five physicians, regular members of said society, or of the medical staff of said public institutions.

No delegate shall be received unless the dues, of his society or institution, to this society shall have been paid; and the sum total to be paid for a delegate shall be equal to the amount annually assessed on each permanent member.

SEC. 6. (Permanent members.) (1) Delegates and such other persons as possess fully the qualifications for membership in this society, may be elected permanent members.

(2) Permanent members, resident in parishes having no affiliated medical society, are charged with the paramount duty of aiding to organize such a society; and, no physician shall be a permanent member, who has been refused membership in the affiliated society of his parish, unless there be satisfactory evidence that such refusal has not been due to his disqualification to be a member of this Society.

SEC. 7. A delegate, who may be a permanent member, or *vice versa*, shall cast but one vote.

SEC. 8. (Associate Members.) Every member of an affiliated medical society, which has paid its dues to this Society, shall be an associate member thereof.

SEC. 9. (Honorary Members.) Honorary Members shall never exceed twenty in number, and shall require the ballots of three-fourths of the voting members present at an Annual Session.

SEC. 10. (Members by Invitation.) Members by Invitation may be elected, to hold connection with this Society only during the session at which they were elected, on the recommendation of the Committee of Arrangements.

ARTICLE III.

*Officers.*

SECTION 1. The officers of this Society shall be, one president, a vice-president for each Congressional District of Louisiana, provided that each of such districts be represented by a delegate, or a permanent member, whom this Society may deem it advisable to elect to the office, one recording secretary, one corresponding secretary, and one treasurer, who shall also be librarian, until such time as the Society, by a vote of two-thirds of the voting members present at an annual session, may determine to elect a librarian, as well as a treasurer.

SEC. 2. Only physicians who are delegates or permanent members shall be elected officers; and the president, the secretaries, and the treasurer must be chosen from those in attendance at the annual session.

SEC. 3. The president and the vice-president shall serve for the term of one year; the secretaries, and the treasurer and the librarian shall serve for the term of three years. But every officer shall continue in office until his successor is duly elected and installed.

SEC. 4. The election of officers shall be on a day preceding the last day of each annual session, but their term of office shall not begin until the close of the last day, except, so far as the coöperative action of the president elect may be required for the transaction of business at the ensuing annual session, such as in the appointment of the committees.

ARTICLE IV.

*Committees.*

SECTION 1. Such Standing and Special Committees may be appointed as this society may deem necessary, for the purpose of preparing and arranging business for the annual sessions, and for carrying into effect the orders of the society not otherwise assigned.

SEC. 2. The following Standing Committees shall be appointed at each annual session, viz:

1. Committee of Arrangements.
2. Committee on the Organization of the Medical Profession.
3. Committee on Necrology.
4. Committee on State Medicine and Legislation.
5. Committee on Scientific Essays, Reports, Original Papers.
6. Committee on Publication.
7. Judiciary Committee.

SEC. 3. Committees shall be appointed as follows:

The chairman, by the president, with the approval of the president elect or of the society; and the remaining members

by the president, the president elect, and the chairman; except in the cases following, viz:

(1) The Committee on Organization shall consist of the president (as chairman,) the vice-presidents and the corresponding secretary;

(2) The recording secretary, the corresponding secretary and the treasurer and librarian, shall be members of the Committee on Publication;

(3) And said committee shall have power to appoint sub-committees of experts;

(4) The president shall have power to appoint members on sub-committees of the Judiciary Committee, and to fill all vacancies on committees.

SEC. 4. Members of a committee shall be responsible for the work assigned it in the order each name on the list is announced; and inaction of the chairman shall not justify the inaction of other members of the committee.

## ARTICLE V.

### *Annual Orator.*

SECTION 1. The society shall elect annually an orator, whose duty it shall be to deliver at the ensuing annual session a public address designed to interest a non-professional audience in the objects of this society.

## ARTICLE VI.

### *Delegates from this Society.*

SECTION 1. Delegates to the American Medical Association, and those State Medical Societies and other scientific bodies in which this society may deem it advisable to be represented, shall be elected annually; or otherwise shall be appointed by the president.

## ARTICLE VII.

### *Funds and Appropriations.*

SECTION 1. Funds shall be raised by the society for meeting its current expenses and awards. These funds may be obtained by an equal assessment upon each of the permanent members, and by the assessment of a like sum upon every affiliated society and medical institution for each delegate to which said society and institution is entitled, by an equal assessment on all the members of affiliated societies; by fines; by the sale of its publications; and by voluntary contributions.

SEC. 2. The funds may be appropriated (1) for defraying the expenses of the meetings, (2) for enabling the officers and the committees to fulfill their respective duties, conduct their correspondence, and procure the materials necessary for their cor-

respondence and reports; (3) for publishing the proceedings, memoirs and transactions of the society: (4) for the salaries of officers; (5) for the establishment and support of a library; (6) for the encouragement of scientific investigations by prizes and awards; and (7) for defraying the expenses incidental to scientific investigations under the instruction of the society, where such investigations have been accompanied with an order on the treasurer to supply the funds necessary for carrying them into effect.

ARTICLE VIII.

*Affiliated Societies.*

SECTION 1. While it is deemed advisable that there should be only one Parish Medical Society, for the purpose of uniting in a single organization, all reputable physicians resident in each parish; there may, none the less, be established several societies in one parish, each society to be composed of members residing in a political subdivision of the parish; and there may be established one society for physicians resident in several adjacent parishes (*i. e.*, district societies), or in subdivisions of two or more adjacent parishes.

SEC. 2. (1) No physicians shall be members of affiliated societies, except those qualified to be members of this society.

(2) Any physician refused admission to, suspended or expelled from an affiliated society of his parish, shall have the right to appeal to the State Medical Society, but he shall neither become nor continue to be a member of said society, unless the facts in the case have been duly investigated by the Judiciary Committee of said society, and favorably decided by said society.

SEC. 3. An affiliated society may adopt any regulations which contain the provisions required by the State Medical Society, and do not contravene any of its regulations.

SEC. 4. Every affiliated society and institution shall pay to the State Medical Society its assessment, which shall not exceed for each delegate, to which said affiliated society or institution is entitled, the amount assessed on each permanent member of the State Medical Society.

ARTICLE IX.

*Meetings.*

SECTION 1. A regular annual session shall be held at such time and place as the society may select, and the president may call a special meeting for the transaction of business of paramount importance.

SEC. 2. The Society shall adopt an "Order of Business" and such "Rules" as may be necessary to conduct the proceedings of the meetings.

# BY-LAWS.

## ARTICLE I.

### *Mode of Government.*

SECTION 1. (Quorum.)

Fifteen members entitled to vote shall constitute a quorum.

SEC. 2. (Mode of voting.)

Permanent members, members by invitation and officers, shall be elected by the ballots of a majority of the voting members present. The mode of voting in all other cases—except where differently specified in the Constitution—shall be by the *viva voice* vote of a majority; provided that one-third of the voting members present, shall have the right to demand the record of the yeas and nays.

## ARTICLE II.

### *Members.*

SECTION 1. Every member, in attendance at the annual sessions, shall, prior to the permanent organization of the session, or before taking part in the proceedings after the session has been organized, sign the regulations of the society, inscribing his name and address in full, the title of the medical institution by which and the year when graduated; and, if a delegate, the title of the affiliated society or institution from which he received his appointment, and shall pay all sums due to this society.

SEC. 2. Every delegate must present a written appointment from the affiliated society or institution which he represents.

SEC. 3. No person shall be elected a member of this Society unless recommended by two members as possessing fully the qualifications for membership; and, at the request of two members, a recommendation to membership shall be submitted to the Judiciary Committee for investigation and report, before action shall be taken thereon by the Society.

SEC. 4. Any member may resign, provided that he has paid all dues, and that there be no charges against him. Any member neglecting two successive years official notifications to pay his dues shall forfeit membership, and shall not be re-elected until said dues shall have been paid.

SEC. 5. No voting member present shall be excused from voting, except by a majority of those present.

SEC. 6. No member shall be required to read his own manuscript; provided that a member known to be a good reader, be ready to act as his substitute.

SEC. 7. Medical men, or men learned in the collateral branches of science, on a visit to the place of the Annual Session, may be permitted to attend meetings, on being introduced by a member of this Society.

SEC. 8. Any person desiring to become a member, during the interval between the Annual Sessions, shall forward his application, indorsed with the recommendation of two members, and accompanied with the annual fee, to the Recording Secretary, who shall record the name on a special list for "temporary members." All privileges of the Society shall be granted to such temporary members until the first meeting of the Society, when the Constitution and sections 1 and 3, Article II, of these By-Laws shall be enforced.

ARTICLE III—DUTIES OF

*President.*

SECTION 1. (1) The President shall *a*, preside (assisted by the Vice-Presidents) at all meetings; *b*, appoint all committees as provided in sec. 3, Art. IV, of the Constitution; *c*, suspend until the next meeting any officer guilty of flagrant malfeasance or neglect of duty, and fill *ad interim* any such, and all other, vacancies that may occur; *d*, call special meetings; *e*, approve or disapprove all requisitions on the funds of the treasury; *f*, give a casting vote when necessary; *g*, act as chairman on the committee for the efficient organization of the medical profession of the State in this society; *h*, direct and control, during the intervals between the Annual Sessions, the general policy and business of this society, transmitting to officers and members such information and documents in his possession as may be needful for the discharge of the duties of each, and requiring reports of progress from all those appointed to do any special work for the ensuing session, to the end that he may if needful take such action that the Society shall not be deprived of this special work because of the inaction of any member; *i*, deliver at the Annual Session an address designed to promote the objects of this society, and report what has been, and is likely to be, accomplished during his presidency to promote these objects; and, *k*, perform all such other duties as this society, custom and parliamentary usage may require.

(2) The President shall have power to delegate his authority in whole or in part to one of the Vice-Presidents.

*Vice-Presidents.*

SEC. 2. (1) Such Vice-President, as the President or the society may select, shall in the absence of the President from the meeting or from the chair, discharge his duties; but, in the event of his death, resignation or disability, the Vice-Presidents in their order of number by congressional districts shall discharge all the duties of the President. In the event of the absence of the President and of the Vice-Presidents, the society shall elect a President *pro tempore.*

(2) Each Vice-President shall be a member of the committee on the efficient organization of the medical profession in this State, charged with the special duty of aiding in the organiza-

tion and in promoting the efficiency of an affiliated medical society in every parish of his district; and also a member of the Committee on Necrology.

(3) Each Vice-President shall report to the President annually in the month of February, the following facts as they existed on the last day of December, as to every affiliated society in his district, viz: the title; regulations; place of meeting; names of officers and members, alphabetically arranged, together with the postoffice address of each, the title of the medical institution in which and the year when graduated.

(4) Each Vice-President shall also report to the President at the same time and for the same date, a register of all the practitioners of medicine in his district, recording in said register, as to each one of said practitioners, the name (alphabetically arranged); the postoffice; the place and date of graduation (if a graduate); and shall arrange the names of said practitioners in three classes, viz: 1st, practitioners of unquestionable good standing; 2d, practitioners of doubtful or of unknown repute, stating which; 3d, irregular practitioners, specifying whether homœopathic, eclectic, Thompsonian, etc., and to this register shall be added a list of all practitioners who, during the year, may have died, removed from their previous postoffice addresses, or come to reside in the congressional district reported upon.

(5) It shall be the duty of the Vice-President of the Congressional District in which the records, archives, etc., of the society may be kept by the Recording Secretary, the Treasurer and Librarian to inspect said records, archives, etc., and to report annually any inaccuracies and delinquencies therein.

*Recording Secretary.*

SEC. 3. (1) The Recording Secretary shall keep not less than three books of record (A) for the regulations of this society and any future changes thereof arranged for ready reference thereto, together with the inscription of the names of members to said regulations as required in Section 1, Article II of the By-Laws, and with a register of the members of this society alphabetically arranged, (B) for the minutes of the proceedings of this society, and (C) for the minutes of the proceedings of the Committee on Publication, of which he shall be a member.

(2) For two days prior to and during each day of the annual session he shall have notified office hours, during which he, or the Corresponding Secretary, or the Treasurer, acting as his assistants, shall register members and collect for the Treasurer, the assessment on each member as registered.

He shall refuse to register any person whose status or credentials are unknown or questionable, and shall refer all doubtful questions of this nature to the Judiciary Committee.

(3) He shall, when necessary, give notice of meetings, of any special duty imposed on a member, and of the election to membership with the fee due by such member.

(4) He shall distribute the annual volume of Transactions, (a)to all members who, by the Treasurer's report, have paid their fees, (b) to such State Medical and other societies as exchanges with would be desirable, and (c) to Medical Journals and Libraries.

*Corresponding Secretary.*

SEC. 4. The Corresponding Secretary shall keep not less than three books of record, viz: (d) for the copy or for the minutes of all the correspondence of the society; (e) for the record of the regulations, of the na nes, etc., of the officers and members of every affiliated society and institution as directed in (3) Sec. 2, Art. III, of the By-Laws; and (f) for the registration of all practitioners of medicine in this State, as directed in (4) of Sec. 2, Art III, of these By-Laws. The facts tor the two last books of record, (e) and (f) should be furnished by affiliated societies to the Vice-Presidents, and by these to the President, who should transmit them to the Corresponding Secretary; but the Corresponding Secretary is required, independently of these societies and of these officers, to render these records as complete as may be in his power; and shall recommend to the Vice-Presidents a blank form for the uniform registration in each district of practitioners of medicine.

(2) The Corresponding Secretary shall be a member of the Committees on Organization and on Publication.

(3) He shall present an annual report.

*Treasurer and Librarian.*

SEC. 5. (1) This officer shall have custody of all moneys, books, and other property not assigned to the charge of any other officer; and he shall keep two books of record; one (g) for receipts, expenses, debts and credits, and one (h) for the ca alogue of all books and other prorerty of the society.

(2) He shall collect all fees and other sums due to the society, notify delinquents, within thirty days after each annual session, of the necessity of prompt payment, and shall report the names of persistent delinquents to the society.

(3) He shall within sixty days after each annual session fur nish the Recording Secretary with a list of the names of all members, affiliated societies, and institutions which have paid their dues, as a guide to siad officer in the distribution of the Transactions.

(4) He shall disburse no money except on the written order of a member, approved either by the President, or by a Vice-President to whom the President has delegated this authority.

(5) He shall lend no books or other property for more than one month, and to no one except a member who has given a written receipt for the same and such other reasonable security as may be required.

(6) He shall permanently retain in the library not less than five copies of the Transactions of each year, and shall take possession of copies for exchange and for sale.

(7) He shall be a member of the Committee on Publication.

(8) He shall give security for the property in his custody, and for the faithful discharge of his duties, whenever the society shall judge this requiste.

(9) He shall at each annual session report the condition of the library, and of the finances of the society, stating its receipts, expenses and debts due to and by it, and the number of deceased and delinquent members as well as of those who have paid their dues; and he shall add to his report an estimate of the receipts and expenses of the society for the ensuing year, and recommend such measures as he may deem necessary to raise the funds needed to meet the estimated expenses.

## ARTICLE IV—COMMITTEES.

### *Committee of Arrangements.*

SECTION 1. (1) This committee shall consist of not less than three members, who shall, if no sufficient reasons prevent, be residents in the place where the annual session is to be held

(2) It shall provide suitable accommodation, and make all necessary arrangements for the annual session. It shall provide a suitable hall for the delivery of the President's address, and of the annual oration, and invite thereto the public, and especially those learned and interested in medical science.

It shall supervise the introduction of all business, and prepare, in accord with the order of business, Sec. 2, Art. IX, By-Laws, a programme of the proceedings. For this purpose, it shall require from each officer, committee and member having business for the society's attention, the nature of said business and the probable time required for its transaction.

(3) It shall, at the opening of the session, report its action and a programme of the proceedings as arranged by it, subject to the pleasure of the society. It shall post, in the hall, when the meetings are held, a notice of any arrangements important for the information of the members.

(4) It shall have the privilege of inviting any distinguished medical or scientific men to attend the session, and of recommending them to the society as members by invitation.

### *Committee on Organization.*

SEC. 2. (1) This committee shall consist of the President, the Vice-Presidents and the Corresponding Secretary, and three members shall be sufficient to constitute a quorum.

(2) It shall be its duty to use all practicable means to organize the medical profession in local societies throughout this State, and to increase the efficiency of this society; and it shall be guided in its action by these regulations as specified in Art. VIII, of the Constitution, and in (3), (4) Sec. 2, Art. III; (1) Sec. 4, Art. III, By-Laws.

(3) It shall present an annual report of what has been done during the year, and recommend such measures as it may deem

necessary, to promote the more efficient organization of the medical profession throughout this State.

*Committee on Necrology.*

SEC. 3. This committee shall consist of the Vice-Presidents. It shall report annually brief biographical notices of deceased members of this society. Each member of the committee shall report to the chairman at least thirty days prior the annual session.

*Committee on State Medicine and Legislation.*

SEC. 4. (1) This committee shall consist of not less than five members. The chairman shall assign not less than one member to investigate, and report to him upon the condition, needs and prospects in this State of each one of the four branches of State Medicine; and the chairman shall present an annual report to the society on all of these branches.

(2) It shall consider propositions to repeal, modify or enact any law relating to medical interests, provided that such propositions be presented in proper language and form for legislative action.

(3) It shall be its duty to recommend to this society its influence in behalf of the enactment of such laws as it may deem desirable, and shall accompany its recommendations with the words and form of the law proposed to be enacted; for this purpose, this committee shall have authority, with the President's written approval, to employ, if this be indispensable, a competent lawyer.

*Committee on Scientific Essays, Reports, etc.*

SECTION 5. (1) This committee shall consist of not less than five members. It shall be its duty to appoint from the members of the society a list of essayists and reporters, and to recommend subjects for their consideration.

(2) It shall particularly encourage scientific essays, reports, and original papers upon the following subjects, and if practicable limit them thereto, viz:

*a.* Subjects peculiar to, or of special importance to this State;

*b.* Positively new facts, modes of practice, or principles of real value;

*c.* The results of well devised original experimental researchss;

*d.* Reviews, so complete, of the facts on any particular subject, as to enable the writer to deduce therefrom legitimate conclusions of importance.

(3) All scientific essays, reports, and original papers, whether from appointees of this committee, from affiliated societies, or from volunteers, shall be presented to the society through this committee, which shall have authority to require that all such manuscripts shall be submitted to it at a definite date prior to the annual session.

(4) All manuscripts submitted to this committee shall be disposed of as follows: Those which the committee does not deem

it desirable to submit to the consideration of the society, shall be returned to the author, provided the attending expense be paid by him. Those deemed suitable for the consideration of the society, shall be assigned the order in which they shall be read; provided that none requiring over thirty minutes for the reading, shall be so assigned, unless recommended as particularly meritorious, or unless summaries of, or abstracts from, manuscripts exceeding thirty minutes for the reading shall be so prepared that these summaries or abstracts can be read in thirty minutes. All manuscripts deemed suitable for the consideration of the society shall, whether assigned for reading or not, be finally referred in full to the Committee on Publication.

(5) This committee, as also the Committee on Publication is prohibited from giving publicity to the names of authors of rejected papers.

*Committee on Publication.*

SEC. 6. (1) This committee shall consist of not less than three members, and the Recording Secretary, the Corresponding Secretary, and the Treasurer and Librarian, shall be members thereof.

(2) It shall supervise all publications of this society, and shall publish an annual volume of Transactions, which, so far as the funds of the society may permit, shall consist of the following contents, viz:

*a* A disclaimer of the society's responsibility for the opinions, theories, criticisms, and alleged facts contained in the published papers of its members.

["The society, in publishing papers, does not thereby endorse their contents."]

*b* A table of contents, and an alphabetical index.

*c* Regulations of this society, and the Code of Ethics.

*d* A list of the officers and members of this society and of all affiliated societies.

*e* A register or list of all practitioners of medicine in Louisiana on the preceding 31st of December, arranged as directed in (4) Sec. 2, Art. III, of the By-Laws.

*f* The minutes of the daily proceedings of the annaal session, or a summary thereof.

*g* The annual official reports, or summaries thereof.

*h* All such scientific essays, reports, and original papers referred to it by the Committee on Scientific Essays and Reports, as a Committee of Experts may decide should be published.

*i* Advertisements admitted at the discretion of the committee.

*k* The permanent address of the society, with request *to exchange*, to occupy a prominent place in the cover.

(3) The Committee of Publication is authorized, at its discretion, to appoint a Committee of Experts on the subject matter of any scientific address, essay, report or paper; and of these, it shall publish only such as a Committee of Experts—whose names shall not be disclosed—shall recommend for publication.

(4) The society may order the publication of any such papers, provided that a *two-third vote by ballot* be cast in its favor.

(5) All papers which are not placed by their authors complete in the hands of the Committee on Publication within thirty days after the close of the annual session, may be excluded from the annual volume of Transactions.

(6) No paper printed by the society shall be otherwise published, unless the author obtains the consent of the Committee on Publication.

(7) This committee shall report annually, through the Treasurer and Librarian, and shall present an estimate of expenses for the ensuing year.

*Judiciary Committee.*

SEC. 7. (1) This committee shall consist of not less than as many members as there may be Congressional Districts in this State. It may apportion itself in sub-committees, one for each Congressional District, and the President may, at any time, appoint additional members on any sub-committee which may be called upon to investigate a case of serious importance.

(2) It shall take cognizance of and report upon all questions of an ethical or judicial character that may arise in connection with this society; it shall, when desired by the society, investigate the status of any member, or of any person proposed for membership, and it shall consider all questions of a personal character, including complaints, protests and questions on credentials.

(3) A charge against a member of this society must be made in writing (and may be made and investigated while the society is not in session), to the President, or to the Vice-President of the Congressional District in which the accused member resides. This officer shall refer the charge to the Corresponding Secretary, who shall forthwith notify thereof the accused member, and the members of the Judiciary Committee. This committee, or with the President's approval a sub-committee thereof, shall then proceed, after due notice to the accused member, to investigate the charge; shall keep an accurate written record of the facts and evidence in the case; and shall prepare a written summary of the chief facts—agreed to by both parties—and of those in dispute with the evidence pro and con thereon, adding thereto the recommendation of each member of the committee or to the sub-committee, which recommendation shall be to dismiss the charge against, to exonerate, to fine, to censure, to suspend, or to expel the accused member. All the proceedings of a sub-committee shall be referred to the Judiciary Committee for its action thereon, and this committee shall refer all the proceedings to this society for final action at the annual session. A vote of two-thirds (by ballot or by yeas and nays) of all members present shall be required to expel a member; and the vote of a majority by recorded yeas and nays shall effect the decision, if expulsion be not the question for decision.

(4) Three members of this committee, or of a sub-committee thereof, shall be necessary to constitute a quorum.

(5) If, after due notification, an accused member fail to appear at the time and place of trial, he shall, unless satisfactory excuse be rendered at the time, be considered as admitting the truth of the charges against him, and shall be liable to sentence accordingly.

(6) Any member convicted of crime by a court of law may be sentenced, without trial, by this society.

ARTICLE V.

*Annual Orator.*

SECTION 1. The Annual Orator may be chosen from any one of the five classes of members.

ARTICLE VI.

*Delegates from the Society.*

SECTION 1. Any Delegate from this society shall, if unable to discharge the duty, give the President prompt notice thereof, and otherwise aid the President to appoint a substitute.

ARTICLE VII.

*Funds and Appropriations.*

SECTION 1. The annual assessment on each permanent member, shall be, until otherwise ordered by a two-thirds vote at an annual session, five ($5); dollars; and on each member of an affiliated society one ($1) dollar, provided that the sum due for each delegate to which an affiliated society or institution is entitled shall not be less than five ($5) dollars. See section 4, Article II, By-Laws.

SEC. 2. Funds may be disbursed by the Treasurer, upon a requisition signed by a member and approved by the President or by a Vice-President duly authorized, for the necessary expenses (1) of the meetings; (2) of officers and committees; (3) of publication. Funds shall not be disbursed for other purposes unless ordered by a vote of the society.

ARTICLE VIII.

*Affiliated Societies.*

SECTION 1. Three physicians shall suffice to organize an affiliated society, provided that all qualified physicians (see Art. II, sec. 1, Const.) residents of the same parish, or of the same neighborhood, shall have been invited to unite in said organization.

SEC. 2. A medical society seeking affiliation with this society must submit, to the Vice-President of the congressional district in which it is located for reference to the President, or

if there be no such Vice-President then directly to the President of this society, two copies of its regulations with a list of its officers and members; and when one of these copies is returned approved by the President and Corresponding Secretary of this society, thereupon the aforesaid society shall be affiliated to the Louisiana State Medical Society, and entitled to delegates, to the Transactions, and all other privileges, so long as said affiliated society conforms to the regulations of this society.

SEC. 3. An affiliated society, failing for two successive years to pay the fees due this society, shall after due official notification be denied all the privileges of this society until said fees have been paid.

SEC. 4. Every affiliated society shall meet at least once annually, and whenever notified by the President of this society, or by the Vice-President of its congressional district.

Every affiliated society is recommended to hold an annual meeting in January to choose delegates to, and otherwise aid this society; and to appoint one standing committee on State Medicine and Legislation, and one on the efficient organization of the medical profession.

SEC. 5. Every affiliated society shall report annually in January to the Vice-President of its district (or if there be no such officer then directly to the President of this society), the following facts as they existed on the preceding last day of December, viz: 1st, any changes in its regulations, its general condition, the names alphabetically arranged, of its officers and members, their postoffice addresses, institution, where and year when graduated, and cessation and refusal of membership during the year with the causes thereof; and 2d, a register of all practitioners of medicine of the parish or of the political sub-division in which said affiliated society is located, in accordance with the directions in (4) sec. 2, Art. III, of these By-Laws. These reports shall be forwarded by Vice-Presidents to the President, and by him to the Corresponding Secretary.

SEC. 6. Every affiliated society shall forward to the Recording Secretary (for reference to the Committee on Scientific Essays and Reports), thirty days before the annual session, any such original papers as it may deem worthy of the consideration of this society, and of publication in its annual Transactions, and shall also forward to the Recording Secretary, prior to the annual session, a list of its Delegates to this society.

SEC. 7. Affiliated societies, through their Delegates, or otherwise, shall have the privilege of nominating the Vice-President of this society for the Congressional District in which said affiliated societies are located.

N. B.—Recommend Constitution for Parish Societies, and form for Annual Reports.

ARTICLE IX.

*Meetings.*

SECTION 1. The annual session shall begin on the , and shall continue from day to day, until all of its business be transacted. During the session there shall be two meetings daily, one at 11 A. M., and one at 7½ P. M.

*Order of Business.*

SEC. 2. The Order of Business shall at all times be subject to the vote of two-thirds of all the voting members present; and until permanently altered, except when for a time suspended, it shall be as follows:

(1) Call to order.

(2) Announcement of the members in attendance by the Recording Secretary.

(3) Reading and correction of the daily minutes.

(4) Reading the notes of absentees, provided these contain any facts of importance.

(5) Election and registration of new members.

(6) Report of the Committee of Arrangements.

(7) Any business, requiring early attention, may, by permission, be introduced.

(8) Address of the President, and the annual oration at the time and place recommended by the Committee of Arrangements.

(9) Reading and consideration of, with action on, the reports of officers; of Standing and of Special Committees; of Affiliated Societies, and of delegates from this society.

(10) Election of officers, delegates, etc., and selection of the next place of meeting.

(11) Appointment of the Chairmen of committees.

(12) Reading and consideration of scientific essays, reports, and original papers.

(13) Unfinished business.

(14) New business.

(15) Announcement of committees.

(16) Reading rough minutes of the session about to close.

(17) Adjournment.

*Rules.*

SEC. 3. (1) The reading of no report, original paper, etc., shall, in its delivery, exceed thirty minutes, unless by special permission of the society; provided that summaries of, and abstracts from such manuscripts as would exceed thirty minutes in the reading, may be read, and that such manuscripts shall be referred in whole to the Committee on Publication. The opportunity for debate shall be furnished immediately after the reading of every paper, but the time for debate shall be limited to thirty minutes, unless extended by vote of the society.

(2) No member shall be permitted to address the society until his name and residence have been distinctly announced, and any such member may be required to speak from the stand. No speaker in the debate of any one subject, shall, unless by permission of the society, exceed ten minutes, nor speak more than once, until every member choosing to speak shall have spoken, nor shall he speak more than twice without the permission of the society.

(3) A member shall not interrupt another while speaking, unless to call him to order or to correct a mistake; and such interruptions shall not be considered as speaking in debate, to the violation of the above rule (2).

(4) A vote shall not be reconsidered at the same meeting by a smaller number than was present at its passing.

(5) When a question is before the society no other motion shall be received; except, (a) to adjourn, (b) to lay on the table, (c) to postpone indefinitely, (d) the previous question, (e) to postpone to a definite time, (f) to commit, (g) to amend, or (h) the main question; which several motions shall have precedence in the order they are arranged. A motion to adjourn, to lay on the table, and to postpone indefinitely are not debatable.

(6) When the previous question is demanded, it shall take five members to second it; and when the main question is put, under the force of the previous question, and negatived, the question shall remain under consideration the same as if the previous question had not been enforced.

(7) When a report is read, it is thereby *received*; and when *received*, it may at any time be considered, and in whole or in part, may by vote of the society be *accepted*, and it is thereby *adopted*.

## REGULATIONS

OF THE

## .....PARISH MEDICAL SOCIETY.

## CONSTITUTION.

### PREAMBLE, TITLE AND OBJECT.

THE ..... PARISH MEDICAL SOCIETY, organized .... shall have for its objects:

(1) The union in this society of all the reputable members of the regular medical profession, residing in this parish, and co-operation with the medical profession throughout the State in sustaining the Louisiana State Medical Society.

(2) The advancement of State Medicine—i. e., of Public Hygiene (or Preventive Medicine,) of Medical Education, of

Medical Jurisprudence, and of Public Institutions for the sick and the infirm;

(3) The cultivation of medical knowledge, and particularly of such parts thereof as may be of special importance to this parish and State;

(4) The elevation of professional character and attainments, and the promotion of the welfare in all matters relating to medical science of the profession and of the public.

ARTICLE I.

*Mode of Government.*

SECTION 1. This society shall be governed by such Regulations as may be specified in its Constitution, By-Laws and Ordinances (or Resolutions;) and, as to matters not so specified, it adopts the Common Parliamentary Law and the Code of Ethics of the American Medical Association.

SEC. 2. Any suspension or alteration of the Constitution shall require a unanimous vote unless proposed in writing at a preceding regular meeting, in which case a vote of two-thirds of the voting members present shall be required; provided that an amendment germain to the subject shall be in order, and may be adopted, though not submitted, at a previous meeting. The By-Laws may be suspended or altered by a vote of two-thirds, and the Ordinances by a majority at any regular meeting.

ARTICLE II.

*Members.*

SECTION 1. (Qualifications.) Every physician, to be a member of this society, must be (1) a graduate of a reputable medical college, (2) socially and professionally in good repute, (3) obedient to the Code of Ethics, and (4) a subscriber to the Regulations of this society.

SEC. 2. Men of worth and culture, occupied in pursuits calculated to directly promote the objects of this society, may, though not graduates in medicine, be elected members.

SEC. 3. There may be two classes of members, (1) Regular Members, and (2) Honorary Members. Honorary Members shall not be assessed, shall not have the right to vote, and shall require, for election, the ballots of three-fourths of the members present at a regular meeting, succeeding a regular meeting at which they have been proposed for Honorary Membership.

ARTICLE III.

*Officers.*

SECTION 1. The Officers of this society shall be, one President; ..... Vice-Presidents; one Recording Secretary who shall also be Treasurer, and one Corresponding Secretary who shall also be Librarian.

SEC. 2. Only physicians, who are regular members, shall be elected officers.

SEC. 3. The President and Vice-Presidents shall serve for the terms of one year, and the Secretaries for three years, said terms to expire at the annual meeting; but in no case shall an officer vacate his place until his successor has been chosen.

ARTICLE IV.

*Committees.*

SECTION 1. Standing Committees shall be appointed on (1) The efficient organization of this society; (2) Judiciary; (3) State Medicine and Legislation; (4) Scientific Essays, Reports and Discussions; (5) Publication.

SEC. 2. Special Committees, and additional Standing Committees may be appointed at the discretion of the society.

SEC. 3. The chairman of any committee shall be appointed by the President, and the remaining members by the President, with the consent of the chairman, or of the society; except, as to the Committee on Efficient Organization, which shall be composed of the President, the Vice-Presidents, and the Corresponding Secretary; and as to the Judiciary Committee, the members of which may be increased at the discretion of the society, by the election of additional members.

ARTICLE V.

*Annual Orator.*

SECTION 1. The society shall elect annually an orator, whose duty it shall be to deliver a public address designed to interest, in the objects of this society, a non-professional audience.

ARTICLE VI.

*Delegates.*

SECTION 1. Delegates to the Louisiana State Medical Association, to the American Medical Association, and to such other scientific bodies, as this society may deem advisable that it should be represented in, shall be elected annually, or in default thereof, be appointed by the President.

ARTICLE VII.

*Funds and Appropriations.*

SECTION 1. Funds shall be raised by this society for meeting its current expenses and awards, by an equal assessment on each of its regular members.

SEC. 2. Funds may be appropriated, (1) for defraying the expenses of the meetings, (2) for enabling the officers and the committees to fulfill their respective duties, conduct their correspondence, and procure the materials necessary for their

records and reports, (3) for the payment of such equal assessments as may be imposed on affiliated societies by the State Medical Association for its support, (4) for publishing the proceedings and transactions of this society, (5) for establishing a library, and (6) for the encouragement of scientific investigations.

ARTICLE VIII.

*Meetings.*

SECTION 1. There shall be not less than one regular meeting .....; one of which shall be the annual meeting, for the election of officers, the presentation of annual reports, the annual oration, and for such other proceedings as may be directed.

SEC. 2. The President shall call a special meeting whenever he may deem proper.

SEC. 3. The society shall adopt an "Order of Business" and such other "Rules" as it may deem necessary to conduct properly the proceedings of the meetings.

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## BY-LAWS.

ARTICLE I.

*Mode of Government.*

SECTION 1. (Quorum.) ....regular members shall constitute a quorum.

SEC. 2. (Mode of Voting.) Regular members and officers shall be elected by the ballots of a majority of the regular members present. The mode of voting in all other cases, except when otherwise specified in the Constitution, or when otherwise determined by the society, shall be by *viva voce* vote of a majority; *provided*, that one-third of the regular members present shall have the right to demand the record of the yeas and nays.

ARTICLE II.

*Members.*

SECTION 1. Every member must, before taking part in the proceedings, sign the regulations of this society, inscribing his name and address in full, and the title of the institution by which, with the year when, graduated; and must pay all sums due by him to the society.

SEC. 2. No person shall be elected a member of this society at the same meeting when his name may be proposed, nor unless recommended by two members as possessing fully the qualifications for membership. In any case, at the request of two members present, such proposal for membership shall be

submitted to the Judiciary Committee for report at the following meeting.

SEC. 3. Any member may resign, provided that he has paid all dues, and that there be no charges against him. Any member neglecting two official notifications to pay his dues, shall forfeit membership and shall not be re-elected until said dues shall have been paid.

SEC. 4. No member present shall be excused from voting, except by a majority of those present.

SEC. 5. No member shall be required to read his own address, report, essay, or other paper; provided that a member, well known to be a good reader, be ready to act as his substitute.

SEC. 6. Medical men or men learned in the collateral branches of science, on a visit to.....Parish, may be permitted to attend meetings on being introduced by a member of this society.

ARTICLE III—OFFICERS, DUTIES OF—

*President.*

SECTION 1. The President shall (a) preside, with the assistance of the Vice-Presidents, at all meetings: (b) appoint all committees, as provided in Section 3, Article 10, of the Constitution; (c) fill *ad interim* all vacancies that may occur, (d) call special meetings; (e) inspect the records and archives of the society and report any inaccuracies and delinquencies in reference thereto; (f) approve or disapprove all requisitions on the funds of the treasury; (g) give a casting vote when necessary; (h) act as chairman of the Committee on the efficient organization of this society; (i) report, at the close of his term of office, what has been accomplished to promote the objects of this society, recommending such measures as he may deem necessary to promote these objects more effectively: (j) and perform all such other duties as this society, custom and parliamentary usage may require.

*Vice-Presidents.*

SEC. 2. (a) Such Vice-President as the President or the society may select shall, in the absence of the President from the meeting or from the chair, discharge his duties, and if all these officers be absent, the society shall elect a President *pro tem*: (b) each Vice-President is charged with the special duty of promoting the efficient organization of the society, and shall be a member of the committee for this purpose.

*Recording Secretary and Treasurer.*

SEC. 3. (a) This officer shall keep one or more books for the record of (1) the regulations of this society (with any further changes thereof arranged for ready reference), the names of members subscribed thereto (see Section 1, Article II, By-

Laws), and a list of officers and members alphabetically arranged; (2) the minutes of the proceedings; (3) the receipts, expenses, debts, credits, and property of the society. (b) He shall give notice, when necessary, of meetings, of any special duty imposed on a member, of the fees due by each, and of election to membership in the society. (c) He shall collect all fees and other sums due, notify delinquents of the necessity for prompt payment, and report the names of persistent delinquents to the society. (d) He shall report annually the financial condition of the society, recommending such measures as he may deem necessary.

*Corresponding Secretary and Librarian.*

SEC. 4. (a) This officer shall keep one or more books for the record of (1) the correspondence of the society; (2) the catalogue of its books and scientific property, and (3) the alphabetical registration of all practitioners of medicine in ..... Parish, on December 31st, of every year. This alphabetical list shall, as far as practicable, record the names, residence, institution by which, and year when graduated, of every practitioner in ..... Parish, dividing these into three classes, viz: Practitioners of unquestionable good standing; practitioners of unknown or doubtful repute, designating which; and irregular practitioners, designating whether homœopaths, eclecties, Thompsonians, etc.

(b) He shall be a member of the Committee on the Efficient Organization of this society.

(c) He shall present an annual report, which shall contain, among other things, a list of deaths, removals, and arrivals (for permanent residence) of practitioners in ..... Parish during the year, closing with the last day of the year.

ARTICLE IV.

COMMITTEES—DUTIES, ETC.

*Standing Committee on the Efficient Organization of this Society.*

SECTION 1. This committee, composed of the President (as chairman,) of the Vice-Presidents, and of the Corresponding Secretary, shall devise and recommend measures to promote the efficiency of this society; and shall report annually all measures necessary to be adopted, in order to support the State Medical Association, and to maintain affiliation therewith.

*Judiciary Committee.*

SEC. 2. (a) This committee shall consist of not less than five members.

(b) It shall take cognizance of, and report upon, questions of an ethical or judicial character that may arise in connection with this society; shall investigate the status, if questionable, of any member, or of any person proposed for membership, and

shall consider all questions of a personal character, such as complaints, protests, etc.

(c.) A charge against a member of this society, must be made in writing to the President, who shall report the charge to the society, as also to the accused member, and refer it to the Judiciary Committee—the members of which may be increased at the discretion of the society. The Judiciary Committee shall, after due notice to the accused member, investigate the charge; shall keep an accurate written record of the facts and evidence in the case; shall prepare a summary of the chief facts agreed to by both parties, and of those in dispute with the evidence pro and con thereon, adding thereto the recommendation of each member of the committee; which recommendation shall be to dismiss the charge, to exonorate, to fine, to reprimand, to suspend, or to expel the accused member. All the proceedings of the committee shall be referred to the society for final action thereon, at a meeting to which all the members have been summoned, with notice of the special business to be disposed of. A vote of two-thirds by ballot, of all members present, shall be required to expel a member; a majority, by recorded yeas and nays, shall effect the decision of any issue involved, other than expulsion.

(d) If, after due notification, an accused member fail to appear at the time and place of trial, he shall, unless satisfactory excuse be rendered at the time, be considered as admitting the truth of the charges against him, and shall be liable to sentence accordingly.

*Committee on State Medicine and Legislation.*

SEC. 3. (a) This committee shall consist of not less than .... members, and shall, from time to time, report to the society upon the condition, needs and prospects in ..... parish of each one of the four branches of State Medicine.

(b) It shall recommend the enactment, repeal, or modification of such State laws and parish ordinances, relating to medical interests as it may deem advisable, presenting these recommendations in the form and words, which it is proposed shall be enacted.

*Committee on Scientific Essays, Reports, Discussions.*

SEC. 4. (a) This committee shall consist of not less than ..... members. (b) It shall make provision for and have general supervision over the scientific proceedings of the meetings; select a list of essayists, and reporters, and of subjects for discussion, to the end that each meeting of the society may be made instructive and attractive to the members. (c) It shall particularly encourage the consideration of all medical subjects of special importance to the parish, and to this State.

*Committee on Publication.*

SEC. 5. This committee shall consist of not less than ..... members, and the chairman of the Committee on Scientific Essays, etc., the Recording Secretary and Treasurer, and the Corresponding Secretary and Librarian shall be members of said committee, with the Recording Secretary and Treasurer, as chairman thereof. It shall discharge the duties usually assigned such a committee; and in the discharge of these duties it shall require that there shall be attached to the published reports and original papers belonging to this society the following: "The ..... Parish Medical Society, although publishing or recommending for publication the reports of committees, original papers of its members, etc., holds itself irresponsible for the opinions, theories, and criticisms therein contained, except when otherwise decided by special resolution." It may refer to the Louisiana State Medical Society any specially meritorious report, essay, or paper.

ARTICLE V.

*Annual Orator.*

SECTION 1. An orator shall be elected at a regular meeting to deliver an address at the succeeding annual meeting. He need not be a member of this society.

ARTICLE VI.

*Delegates.*

SECTION 1. The Committee on Organization shall recommend to the society at appropriate times members for election or appointment as delegates; notifying the society of the number, which this society is entitled to, of delegates to the State Medical Society, and to the American Medical Association.

ARTICLE VII.

*Funds and Appropriations.*

SECTION 1. The annual fee due by each regular member shall be, until otherwise ordered by the society, .....

SEC. 2. Funds may be disbursed by the Treasurer for the payment of (1) the necessary expenses of the meetings; (2) the necessary expenses of officers and committees; and (3) the assessment of the State Medical Association—upon a requisition signed by a member and approved by the President. Funds shall not be disbursed for other purposes unless approved by vote of the society.

ARTICLE VIII.

*Meetings.*

SECTION 1. The regular meetings shall be held, until other-

wise ordered by a majority of the society, in the .....
....., on the
..... The annual meeting
shall be the regular meeting in the month of .....

*Order of Business.*

SEC. 2. The order of business shall at all times be subject to the vote of two-thirds of all the members present; and until permanently altered, except when for a time suspended, it shall be as follows:

(1) Call to order; (2) reading and consideration of the minutes; (3) reading of communications; (4) proposals for membership; (5) report of officers and of committees and action thereon; (6) election of members; (7) unfinished business; (8) new business; (9) reading of original papers and discussion thereof; (10) debate on a subject selected by the Committee on Scientific Essays, etc., and announced at a previous meeting, to be opened by a member appointed by the President; (11) relation of cases and of medical news; (12) arrangement and announcement of scientific work for the following meeting; (13) adjournment.

*Rules.*

SEC. 3. (1) The reading of no report, essay, or original paper shall in its delivery exceed thirty minutes, unless by special permission of the society, and no speaker shall, in debate on any one subject, exceed ten minutes, nor speak more than once, until every member, choosing to speak, shall have spoken—nor shall he speak more than twice without leave of the society.

(2) A member shall not interrupt another, while speaking, unless to call him to order or to correct a mistake, and interruptions for these purposes shall not be considered as speaking in debate.

(3) A vote shall not be reconsidered at the same meeting by a smaller number than was present at its passing.

(4) When a report is read it is thereby *received:* and when it may at any time be considered, and in whole or in part may, by vote of the society, be *accepted*, and thereby is *adopted.*

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

## SEPTEMBER, 1879.

## ORIGINAL COMMUNICATIONS.

### Treatment of Yellow Fever.

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(*Extracts from Clinical Lecture delivered in the Amphitheatre of the Charity Hospital, February 5th*, 1879. *Reported for the New Orleans Medical and Surgical Journal.*)

### LECTURE V.

TREATMENT OF YELLOW FEVER, AND CLINICAL LECTURES ON THE YELLOW FEVER EPIDEMIC OF 1878.

Concluded from August No.

Of late years, the view held by Hippocrates, Asclepiades, Campanella, Van Helmont, Sydenham, Stahl, Boerhaave, Sobernheim, and many others, that fever was salutary in that it removes from the system the existing products of disease, and was a conscious and voluntary effort on the part of Nature to free herself from the detrimental substances which had forced themselves into the system, has receded into the back-ground, and the conviction has been steadily gaining ground that, quite apart from the fundamental disease, *fever* (*increase of heat*), *of itself*, causes *great danger to the patient*, *in fact that in* many febrile disorders the majority of the patients who die, *die not of the disease proper*, *but of the accompanying fever*. In typhus

and similar diseases, many physicians of learning and experience regard the *fever* as the essential danger, and have been naturally led to find *in the fever* the *essential object of treatment.* The experience of the present day has shown that under the action of a long continued high fever-temperature, the cell elements of a large number of organs degenerate, and are at length destroyed; in the liver the cells are abnormally filled with granules and fat-globules, the nuclei become invisible, the sharp contours of the cells disappear, and they are represented only by loose conglomerations of granular *debris;* in the kidneys similar alterations are found, chiefly in the epithelium of the cortical substance; in the heart the transverse striæ of the primitive fibres are indistinct and obliterated, and the fibres filled with abundant fat-globules, the color of the heart is much paler, of a greyish and brownish yellow, and the whole muscle is strikingly soft and easily torn; in the voluntary muscles there is the same indistinctness of the primitive fibres caused by granular and fatty parenchymatous degeneration; and even in the blood vessels of the brain similar alterations are found. As the cause of the febrile rise in temperature is increased combustion, and as the appetite and digestion are generally so affected as to prevent the replacement of the loss of the corporeal substance by the increased combustion, it is evident that every fever is attended by loss of substance, and wasting; and it is farther evident that such consumption in protracted or chronic febrile complaints may be the final cause of death. Whilst on the other hand, in such an acute febrile complaint as yellow fever, there is without doubt during the active stages, a rapid decrease of substance, this wasting is neither the greatest nor the most important symptom, nor can it be considered as the cause of the great fatality of this disease. Countless human beings have died of yellow fever before any appreciable degree of wasting has been occasioned: and we must refer the exceedingly rapid and fatal nature of the disease to the celerity with which its poison induces profound changes in the blood, heart, liver and kidneys and nervous system, and to the consequent high temperature. After a careful examination of the symptoms during life, and the lesions after death, I have been unable to establish any connection between the tissue

changes and the degree of heat during the febrile stage; but that such relationship exists may be inferred from the facts that in almost all cases of yellow fever, where the temperature does not exceed 102° F., or even 103°, the symptoms are comparatively mild, and the tendency is to recovery.

Whilst we cannot fully subscribe to the dogma that the essential danger in yellow fever consists in *the deleterious influence of a high temperature on the tissues;* at the same time we freely admit that the material changes lead to functional disturbances of all the organs, which lead to disorganization of the blood, uræmic poisoning, convulsions, and finally to cardiac and cerebral paralysis.

If it be held that in yellow fever the greatest danger is to be looked for in the height of the temperature of the body, and that the raising of the temperature beyond a certain point is in a large number of cases the direct or indirect cause of death; then the essential problem in the treatment is to lower the temperature, to cool the patient. The most efficient remedies for this purpose are, 1st. Active purgation and large doses of quinine in the first twenty-four hours of the fever. 2d. The employment at regular intervals from the inception of the fever, of such measures and agents as promote free perspiration and diuresis, as the hot mustard foot bath, frictions with fresh olive oil, orange leaf tea, sage tea, and spirits of nitric ether. 3d. The employment at regular intervals from the inception of the fever, of those agents which control the action of the heart and arteries, quiet the nervous system and reduce animal heat, as aconite, veratrum viride, and gelsemium sempervirens; 4th, local and general blood-letting; 5th, the free employment at regular intervals from the inception of the fever, of the so-called antizymotic remedies, carbolic acid, sulpho carbolate of sodium, sulphide of sodium, and black sulphuret of mercury. 6th. Sponging the surface with water, diluted acetic acid, diluted alcohol, sedative water, and greatly diluted aqua ammonia. 7th. The cold or tepid water bath, and cold or tepid water sprinkling in cots or beds specially prepared for this purpose. In other words those antipyretic and antithermal remedies and measures should be instituted which reduce the action of

the heart and arteries, promote free perspiration, control excessive chemical action in the blood, by their antiseptic and antizymotic properties, and directly reduce the heat of the surface.

Nothing apparently could be simpler than the fulfillment of the seventh method indicated above, namely, the plunging of the hot yellow fever patient into cold water; rubbing his surface with blocks of ice, or placing him upon a cot properly constructed, in irrigating his body with either warm or cold water, thus abstracting the heat directly and by evaporation from the surface. From the time of Hippocrates to the present day, efforts have been made to conquer fever heat with cold water, but the English physician, Dr. James Currie, who more than seventy years ago frequently employed the thermometer in the diagnosis and treatment of diseases, and who strenuously advocated the use of water warm and cold as a remedy in fevers and other diseases, should be regarded as the true founder of modern HYDROPATHY, notwithstanding that his method gradually fell out of use and was almost forgotten, in the treatment of fevers until 1861, when Ernest Brand, of Stettin, published his book about the hydropathic treatment of typhus. The work of Ernest Brand did good service in stimulating other physicians to make trial of this method and probably led to the energetic and experimental researches of the Kiel observers. Bartels and Jurgensen, of Kiel, have shown that in the majority of patients thoroughly cold baths may be used without danger as often as may be necessary, that is as often as the temperature in the interior of the body may again have risen beyond a certain limit. The great results of the cold water treatment date from the publication of these experiences in 1866. It was throughout shown that such results could only be attained by controlling the temperature of the patient by day and night, and using the cold bath as often as the bodily temperature required it. It is usually necessary to give from six or eight cold baths in the twenty-four hours. In severe cases it happens that the bath has to be given twelve times in the twenty-four hours. Professor C. Liebermeister, of Tubingen, who has recorded his extensive and valuale experience with this method of treatment, has used as many as two hundred baths in the treatment of an obstinate case of typhus.

In the Kiel Hospital, from 1850–1861, out of 330 typhus patients, 51 died under ordinary treatment, that is 15.4 per cent. On the other hand, from 1863, out of 160 cases which were consistently treated with cold water, only 5 died, that is 3.1 per cent.

In the hospital at Basle, where abdominal typhus is extremely common and very virulent, until the year 1865, the treatment was of the ordinary symptomatic and expectant kind. When, in 1865, Professor C. Liebermeister undertook the direction of the department of Basle, baths were given more regularly, but still generally only once or twice a day, rarely twice. At the same time, in order to aid the antipyresis, quinine or digitalis was used, but not in so energetic a manner, nor according to such established indications as later. At length, however, from September, 1866, after Professor C. Liebermeister had seen the convincing communications of Jürgensen, of the results obtained at Kiel, baths were employed in gradually increasing frequency, and by degrees somewhat colder, until at last, near the commencement of the year 1868, the method of treatment has been fairly settled.

Professor C. Liebermeister has given the following valuable statistics as the effects of different modes of treatment of abdominal typhus, in the hospital at Basle.

I. *With ordinary treatment*, 1843–1853, cases of typhus fever 444; deaths 135; mortality 30.4 per cent. 1854 to 1859, cases 643; deaths 173; mortality 26.7 per cent. 1860 to 1864, cases 631; deaths 162; mortality 25.7 per cent.

II. *With imperfect* antipyretic treatmen', January, 1865, to September, 1866, cases 982; deaths 159; mortality 16.2 per cent.

III. With consistent antipyretic treatment, September, 1866–1870, 845 cases; 64 deaths; mortality 7.6 per cent.

Favorable reports of the antipyretic treatment of abdominal typhus came also from numerous hospitals, as those in Munich, Erlangen, Würzburg, Nuremberg, Griefswald, Jena, and Halle. According to Professor C. Liebermeister, this mode of treatment is not alone useful in abdominal typhus, but generally it is of value in every other disease accompanied by fever, in which the rise of temperature of the body brings danger by its

height or duration; and the region of these diseases is now proved to be much greater than had formerly been anticipated; all complaints belonging directly to it which, as a rule, are accompanied by somewhat severe and continued fever. According to Professor Liebermeister, the most brilliant results are naturally to be expected in those diseases in which the danger chiefly or exclusively depends on the fever; but only slightly on the local disturbances, as, for instance, in abdominal typhus, exanthematic typhus, scarlet fever, etc. But much is gained even in those diseases in which severe and dangerous local lesions exist, if we can succeed in allaying the danger arising from the fever. For instance, Professor Liebermeister affirms that very favorable results are furnished by the consistent use of the cold water treatment in those severe forms of pneumonia which are usually called typhoid, bilious or asthenic. Professor Liebermeister has treated more than 200 cases of pneumonia in this manner, and has employed cold baths in scarlatina, measles, in the primary fever of small-pox, in pleurisy, in puerperal fever, and in meningitis cerebro-spinal epidemica.

The temperature of the baths employed by Professor Liebermeister is generally 20° C. (68° F.), and only in hot summer weather, or when from particular circumstances, a lower temperature is required, it may be restored by putting in pieces of ice. The length of the bath amounts, as a rule, to ten minutes, a much longer time is disagreeable to the patients and possibly might be productive of injurious consequences. If a weak person be so affected by the bath that he continues shivering for a long time afterward, or even collapses, it is advisable to limit the duration to five or seven minutes. Such a short cold bath is always more effective than a far longer continued bath. Directly after the bath the patient must rest, for that purpose, without being first dried, he must be wrapped up in a dry blanket, laid in bed, which may be somewhat warmed at its foot end, lightly covered up, and, under certain circumstances, should have a glass of wine given him, and only after some time has elapsed should his night dress be put on. Cold douches, as direct calometric examination shows, have much less effect than cold baths of equal temperature and duration, and are much more unpleasant to the patient. Cold packings

are generally well borne, even by the weakest patient, particularly if the feet and legs are left free. A series of three or four consecutive packings of from ten to twenty minutes each, have about the same effect in cooling the body as a cold bath of ten minutes duration. Local abstractions of heat by cold applications, ice-bladders, etc., appear to have an essential influence on the temperature of distant parts of the body. In a healthy man, the bodily temperature becomes reduced by cold drinks, swallowing ice, and by cold enemata, etc., and about as much as corresponds to the quantity of warmth required for warming the introduced material; a regulated increase in the production of heat does not take place, as in the cooling of the external skin. This is a circumstance of essential signification; and if the general effect of such abstractions be not very great, there is this advantage that there is no opposition to be overcome, and no great demand is made on the system. If it were possible to abstract large quantities of heat from the internal organs, without causing much irritation, this would be theoretically the most commendable form of refrigeration. The proposition to wash out the intestinal mucous membrane for a length of time with a constant stream of cold water, by means of a double-action œsophageal tube carried far up the rectum, one pipe of which should be put in communication with the reservoir, appears worthy of trial.

Professor Liebermeister, whilst strenuously advocating the preceding method of treating fevers, at the same time admits that the extreme obstinacy of fever in many cases, which is occasionally not to be overcome by the most persistent use of baths, as well as the circumstance that many patients will not bear a sufficiently frequent employment of them, renders it necessary to use freely such remedies as quinine, digitalis, and veratrum, for the reduction of the temperature of the body.

During the yellow fever epidemic of 1878, the effort was made by several physicians to reduce the fever heat by cold water baths, cold packings, and cold water *sprinkling*. We have no reliable statistics of the results of these imitations of the experiments of Currie and of the German hydropathists; but as far as my knowledge extends, they were not attended with favor-

able issues in comparison with other modes of treatment, and were not to any extent adopted by the most experienced and intelligent physicians. The heralding of some of these hydropathic experiments in the daily newspapers, as well as the death of the New York physician, Dr. Kibbee, on his own fever cot, under the process of *water sprinkling*, did not convince either the profession or the public as to the value of such measures in the treatment of yellow fever.

The objections to the employment of the hydropathic treatment in yellow fever are briefly these:

1st. The yellow fever poison induces rapid and profound alterations in the ultimate muscular fibres of the heart, causing obliteration of the transverse striæ, and granular and fatty degeneration.

The pulse at the commencement of the attack is rapid and full. The frequency of the pulse does not, however, as a general rule, continue to correspond with the elevation and oscillations of temperature, as in many other febrile diseases; and in many cases of yellow fever, the remarkable phenomenon is witnessed of the pulse progressively decreasing in frequency, and even descending below the normal standard, while the temperature is maintained at an elevated degree; and on the other hand, the pulse frequently increases in frequency, but diminishes in force, near the fatal issue. The occurrence of copious hæmorrhage from the stomach or bowels may be attended with sudden depression of temperature, and increase in frequency but diminution in the force and fullness of the pulse. I have observed cases in which, even in young persons, the pulse upon the 5th, 6th and 7th days of severe cases of yellow fever, has not exceeded 36 beats per minute. I have also observed many cases in which the pulse was intermittent, both during the active stages and during the period of depression.

The remarkable progressive decrease in the beats of the pulse after the first stage of yellow fever, appears to be due to several causes; as the anatomical changes in the heart (acute fatty degeneration), and the retention in the blood of the bile and urinary constituents.

It is well known that absolute rest in the recumbent position is one of the most important indications in the treatment of yellow fever; it is also known to the experienced physician, that rapid rises in temperature, sudden collapse, fatal syncope, and profuse hæmorrhage from the stomach and bowels and wild delirium, coma and death, may be caused by the mere removal of the patient from a private residence to the hospital, or by the injudicious rising of the patient and getting out of bed.

It appears, therefore, from these conditions of the heart, and circulatory and nervous systems, that the cold water or hydropathic treatment is inappropriate and dangerous in yellow fever, in that it necessitates frequent change of position and frequent exertion.

2d. The kidneys are profoundly altered in many cases of yellow fever, and many deaths are caused by the structural alterations of these organs; and in every case of yellow fever there is a greater or less tendency to congestion of these organs desquamation of the excretory cells, and the exudation of albuminoid and granular matter.

The cold water, or hydropathic treatment, therefore, is inappropriate and dangerous in yellow fever, in that it tends to induce fatal congestions of the kidneys.

I have seen some good results accomplished both in my private and hospital practice, in cases of urinary suppression, by the injection of large quantities of ice-cold water into the rectum; and this method, as well as swallowing fragments of ice and sponging the surface of the body with cooling evaporating lotions, appear to be the measures best adopted to cool the fever heat in yellow fever.

In order to reduce and control the febrile heat in yellow fever, I relied chiefly upon early and free purgation, and the use of quinine internally and externally (chiefly by the latter method) veratrum viride, aconite, gelsemium sempervirens, cold water and fragments of ice (ice-cold carbonic acid water, Apollinaris water), frictions with olive oil, and such antizymotic agents as sulpho-carbolate of sodium.

10. ANTIZYMOTIC REMEDIES (SULPHO-CARBOLATE OF SODIUM, ETC.) IN THE TREATMENT OF YELLOW FEVER.

The employment of such *antiseptic* remedies as sulphuret (black sulphuret) of mercury, salicylic acid, creasote, carbolic acid and sulpho-carbolate of sodium, should engage the attention of the medical profession in the treatment of yellow fever. I shall confine my observations to the last-named remedy. In 1873, I treated over 50 cases of yellow fever, and have the details of the cases in which I employed the sulpho-carbolate of sodium with apparent benefit.

From direct clinical observation, and from experiments on animals, I was led to believe that the black vomit might, by its decomposition in the stomach and re-absorption into the blood, be one cause of death by septicæmia. I endeavored, therefore, to modify and prevent these changes by the use of the sulpho-carbolate of sodium: and at that time (1873), three cases of yellow fever attended with high temperature (105.5–107.5°) and black vomit recovered under the use of this agent. The sulpho-carbolate of sodium was employed in scruple and half drachm doses every 4 to 6 or 8 hours. This treatment I found to be especially adapted to severe cases, when the first stage has been attended with high fever, and in which we infer from the nausea and vomiting that black vomit will be an inevitable result. During the recent epidemic of 1878, I employed the sulpho-carbolate in near two hundred cases of yellow fever with satisfactory results. It was administered in from 10 to 20 grains in orange leaf tea every 4 hours, during the active febrile stage. It is almost wholly tasteless, and in no instance did I observe it to produce any irritation of the stomach. The objections to carbolic acid, that it has an unpleasant taste, and is often irritating to the gastric mucous membrane, and that it can be administered only in small doses, do not apply to the sulpho-carbolate of sodium.

Dr. Sansom, by a series of well devised and carefully executed experiments, has established the fact that large doses of the sodium sulpho carbolate may be administered with impunity to both animals and man.

Dr. Sansom found that 20 grain doses of sodium sulpho-carbolate could be readily administered to adults. So free

from taste was the solution, that many said that it seemed only like water itself. The dose was increased in several cases to 60 grains, administered every 4 hours. The only direct effect noted, was a slight tendency to vertigo or dizziness. The odor of carbolic acid could be readily detected in the breath. The urine of a patient who had taken 360 grains of sodium sulpho-carbolate in twenty-four hours, was collected and examined. It presented no evidence of the presence of carbolic acid, but contained a considerable quantity of sodium-sulphate. It showed a marked tendency to resist putrefaction.

It would appear, therefore, that sodium sulpho-carbolate administered to a living animal is rapidly absorbed and projected throughout the system. In the blood, or the tissues, the double salt is decomposed, the sodium sulphate being set free in the tissues, and ultimately excreted by the kidneys: the carbolic acid also liberated in the textures, eventually for the most part escaping by the lungs. It is probable, also, that some portion of the carbolic acid is eliminated by the urine. It follows that the administration of sodium sulpho-carbolate is an indirect means of administering carbolic acid; and inasmuch as at least one-fourth of the weight of the sulpho-carbolate employed consists of carbolic acid, we find that an amount equalling from 15 to 90 grains per diem can be administered of the latter. It is obvious that the direct administration of this amount of carbolic acid would, from its nauseous character and its difficulty of manipulation, be not readily accomplished; and there would be a danger of the toxic action of the latter being manifest, a result which does not occur when the sulpho-carbolate is administered. It is probable that in this latter case, there is a gradual evolution of carbolic acid, which at no time is in sufficient amount to manifest its poisonous action It is possible that the sulpho-carbolate of sodium, administered in 5 grain doses (dissolved in water) three times a day, may prove an efficient and valuable prophylactic during the prevalence of yellow fever. Sodium sulpho-carbolate has been also administered with marked benefit in the treatment of ulcerative tonsillitis, sloughing ulceration of the tonsils, scarlatina, erysipelas, enteric fever and tuberculosis.

In 1857, Professor Polli, of Milan, introduced sulphurous acid, and the sulphites and hyposulphites of the alkalies, and alkaline earths, with the avowed object of withstanding the internal decomposition occurring in zymotic diseases. These agencies were regarded not as influencing septic agencies, but as opposing the catalytic changes supposed to occur according to Liebig's theory of fermentation and zymosis. According to Professor Polli, these salts do not act as poisons towards the several morbific ferments. They do not kill the catalytic germs of the organic poisons, but they re-act on the material components of our organism, rendering it by their presence incapable of being acted on by these catalytic germs. The sulphite of sodium was used during the epidemic yellow fever of 1878, as a prophylactic, and also by some physicians in the direct treatment of the disease, but we have no data to show the relative value of these measures.

It has also been proposed to employ in the treatment of yellow fever, the Ethiop's mineral (black sulphuret of mercury), holding two agents, sulphur and mercury, which, since the time of Valisneri, have always been regarded as the most potent of parasiticides and germ destroyers, whether used internally or applied externally. The black sulphuret of mercury may be given in doses of from 12 to 50 grains, without causing salivation, and as a prophylactic against *cholera plague* and other contagious diseases the Italian physicians recommend the Ethiop's mineral daily, in the following doses: for children 2 years, 1½ grains; 2 to 5 years, 2 grains; 5 to 12 years, 3 grains; 12 to 20 years, 3½ grains; 20 years and upwards, 4½ grains.

11th. While local blood-letting may be beneficial in the first stage, when practiced chiefly for the relief of local congestions of the stomach and kidneys, general blood-letting is injurious on account of its depressing effects upon the heart and nervous system. Cut cups should be employed with caution, and in the majority of cases they are unnecessary. I have, however, used them with signal benefit in several cases after the supervention of black vomit. In three cases of children during the epidemic of 1878, in which I abstracted blood from the epigastrium by cut cups, after the supervention of black vomit,

recovery took place; and I attributed the favorable issue largely to the local abstraction of blood. In like manner the local abstraction of blood has proved beneficial in congestions of the kidneys and brain; in the former case the cut cups or leeches are applied to the back over the region of the kidneys, and in the latter to the temples and back of the neck. During the epidemic I always carried my cupping instruments with me and applied them immediately with my own hands when their use was indicated. The delay of one or more hours in securing the services of a "*professional cupper*," may prove fatal. In most cases the circulation will best be influenced by dry cups, sinapisms, and hot mustard foot baths.

Blood-letting, either in large or small quantities repeated at intervals, is injurious, because it permanently reduces the pulse, prostrates the powers of life, and quickens the fatal termination.

12th. The employment of the mineral acids internally, as the nitro-muriatic, from its supposed beneficial effects upon the jaundice, as well as of the tincture of the sesquichloride of iron, from its supposed power of arresting or preventing black vomit, is of very doubtful propriety. If the view be correct that black vomit is intimately associated with and even dependent upon impairment, if not complete suppression of the functions of the kidneys, and if, to a certain extent, it be an effort of nature to relieve the blood of certain poisonous constituents, such agents can have little or no remedial power, and they are in many cases directly injurious by their irritant action upon the congested, irritated and softened gastric mucous membrane.

13th. Such stimulating diuretics as oil of turpentine, whether used internally or externally, are dangerous, in that they may cause fatal congestion of the kidneys, followed by uræmic poisoning. On the other hand the spirits of nitric ether, and the mild saline diuretics (we have already pointed out the value of certain mineral waters), will prove in most cases beneficial. A pleasant effervescing draught may be extemporaneously prepared as follows: ℞—Potassi bicarb., ʒiij.; aquæ destillatæ, fʒiij. ℞—Acidi citrici, ʒij.; aquæ destillatæ, fʒiij. One tablespoonful of each mixture, with two tablespoonfuls of ice cold water, mingled together, every two, three or four hours.

14th. Cantharides (blisters), should be used with judgment, on account of their irritant effects (that is of the absorbed cantharidin) upon the kidneys and urinary apparatus. In some cases of black vomit, unaccompanied by urinary suppression, I have derived benefit from blisters to the epigastrium; and also in cases of great cerebral disturbance, they appeared to accomplished some good when applied to the back of the neck.

15th. The sudden fatal termination of many cases of yellow fever, is to be referred chiefly to the sudden arrest of the function of the kidney: complete suppression of urine in yellow fever, is of more fatal import, even than black vomit, which it accompanies and precedes. In cases of suppression of urine in yellow fever, the malpighian corpuscles and tubuli uriniferi are filled with granular albuminoid matter, oil globules, and detached epithelial cells. If the cessation of the excretion of the urine was due simply to capillary congestion or defective inervation, it might be met by appropriate remedies; but the results of my chemical and microscopical examinations have placed in a clear light the reason of the impotency of all measures heretofore proposed for the relief of this fatal symptom.

I have in several cases of temporary suppression of urine in yellow fever, restored the excretion by throwing large quantities of ice-cold water into the rectum. Ergot, either in the form of the tincture or fluid extract, has been said to have restored the excretion of urine, but this powerful agent has failed in my hands. The subcutaneous injection of ergot and ergotine, has been employed by several physicians for the arrest of black vomit, and cases thus treated have been published in the daily newspapers and in the medical journals, and recovery in these cases was referred to the effects of ergot, used by subcutaneous injection. It is well known that in this epidemic as in preceding epidemics, numbers of cases of yellow fever, with black vomit, have recovered under various modes of treatment. Thus, I have seen the black vomit arrested in some cases by cut cups, in others by the ice bag to the epigastrium; in others again by the following prescriptions: ℞. Calcis carb. precip. ʒiij.; pulv. gum acaciæ ʒij.; aquæ destillatæ fʒiij. Mix.: tablespoonful every half hour. ℞. Calcis carb. precip. ʒiij;

kreasote ♏xxx; emulsion gum acaciæ f℥iv. Mix. Sig. Tablespoonful every two or three hours.

We frequently observe the change in the color of the black vomit from the dark brown and black to the florid hue, from the neutralization of the acid of the gastric juice by the carbonate of lime.

16th. The maintenance of free ventilation, and at the same time, the avoidance by proper coverings of sudden changes of temperature.

I have shown by numerous careful analysis of the urine, and by microscopical examinations of the kidneys after death, that in fatal cases, the lesion of these organs is profound. The results of these investigations afford an explanation of the fact that sudden changes or depressions of temperature often cause sudden and fatal changes in cases of yellow fever. By sudden depressions of temperature, the function of the skin is diminished or arrested, internal congestions promoted and augmented in the enfeebled state of the circulatory and nervous systems which characterize the second stage of calm and depression, and the already crippled kidneys have an additional amount of work thrown upon them, while at the same time they are still further incapacitated for the performance of this work by the increased congestion.

17th. While opium and its preparations may in certain cases attended with sleeplessness and great restlessness in the first stage, produce favorable results, at the same time they possess no power of arresting or curing the disease, and should be used with great caution, as they may act with great energy and even poisonous effects when the function of the kidneys is impaired or arrested. This observation applies equally whether opiates be administered by the mouth or by subcutaneous injection. The effect of yellow fever on the system is to make it sensitive to narcotics. Even when yellow fever attacks those who are suffering with delirium tremens, they lose their tolerance for narcotics. Daniel Blair has well said that the injury frequently arising from the use of morphia is chiefly due to its action on the secretions of the kidneys; it impairs their function, and when the march of symptoms is already verging on that of uremic suppression, although the tranquilizing effects

of the drug may be pleasant for the time and well marked, it indirectly induces head symptoms and adds to the uremic poi soning. The rule therefore would be *not to give it where there is suppression or tendency to suppression.*

As a general rule, suppression of the urinary secretion is speedily followed by restlessness, delirium and coma, and, in some cases, convulsions. It is folly to expect any good results from sedatives and the various preparations of opium in such cases. Counter irritants to the surface, cut cups and the prolonged use of warm baths are the measures which promise the most good.

18th. *Transfusion of blood* suggests itself as a measure to be considered in the second stage of yellow fever in extreme cases, where the issue appears to depend mainly upon the prolongation of the struggle.

When we consider the history of transfusion of blood and saline solutions, the doubtful nature of the results, and the dangers of the operation; and farther, that favorable cases of yellow fever recover rapidly; no one would feel justified in performing transfusion, except in extreme cases.

When we consider still farther the nature of the lesions in severe cases, the dilated and enfeebled capillaries, the weak circulation, degenerated, flabby, feeble acting heart, the congested gastric mucous membrane, the fatty degeneration of the liver, the congested and altered condition of the kidneys, the defibrinated blood, loaded with urea and bile, and the passive hæmorrhages resulting from capillary congestion and defibrination of the blood, it is impossible to conceive in what manner any benefit could arise from the injection into the blood vessel system of saline solutions or of fresh blood.

19th. The maintenance, as far as possible, of absolute rest in the recumbent posture. This precaution appears to be indicated by the results of experience, as well as by the *lesions of the heart*, which I have shown by careful post-mortem examinations to be characteristic of this disease.

*The central organ of the circulation is structurally altered and enfeebled in yellow fever. The muscular structures of the heart present alterations similar to those observed in the liver and kidneys.*

Oil and granular albuminoid matter is deposited within and around the muscular fibrillæ, and the organ after death presents a yellow, flabby appearance. In some cases, time is required for the restoration of its free and vigorous action, and this result is impossible without absolute and continuous rest in the recumbent position.

*Every case of yellow fever should be regarded as serious, however slight the symptoms may appear; and on account of the profound structural alterations of the heart, liver and kidneys, and the profound alterations of the blood, the closest medical attendance and the most careful nursing are demanded.*

20th. After the subsidence of the fever, the diet and drink should still be restricted to articles of the blandest and lightest description, administered at regular intervals in small quantities. A careful guard should be kept against the commission of any indiscretion in eating or drinking, or sitting up in bed, on the part of the patient, and against the officious interference of friends in such matters. The food should consist chiefly of beef tea, chicken tea, arrow root, sago, milk and barley water, and when the stomach is at all irritable these should be taken in minute quantities at a time. The same rule applies to drinks of all kinds, as the patients are generally greedy for large draughts of fluids. By sucking liquids through a glass tube of small bore, or by administering them by tea or tablespoonsful, they are much more likely to be retained.

When wines, or brandy or whisky are used, the greatest care should be exercised as to their freedom from impurities. Moderate quantities of the best hock, champagne, or weak brandy and water, well cooled, may be used with benefit in some cases.

If the disease ceases with this stage, the same carefulness must be extended to the period of convalescence. If aperients are required, the effervescing powder, the carbonate and sulphates of magnesia, separately or in combination, may be administered internally, or the bowels may be kept open by saline enema. When there is evidence of excess of acid in the stomach, the bicarbonate of soda in combination with nitrate of potash, may be used in from five to ten grains at a

dose, and the practitioner should be careful not to introduce an excess of alkali.

When the mucous surfaces, as indicated by the tongue, are denuded of epithelium, the use of gum-water may be beneficial by lubricating and soothing the raw surfaces.

Even when black vomit appears, although the chances of life are fearfully diminished, the physician must not abandon his patient, and even in this stage the disease may be curable. This has been accomplished in some cases by vigilantly watching the symptoms and mitigating them, and by sustaining and husbanding the general powers of life. I have seen a mitigation of the emesis by the internal use of the sulpho-carbolate of sodium, creasote and carbonate of lime in mucilage. Dry cups, sinipisms, and the ice-bag have proved useful for the relief of epigastric tenderness and vomiting. Blisters, leeches, and cut cups should be avoided in this stage, as they tend to depress the already exhausted powers.

21st. If intermittent or remittent fever supervenes, as it does in many cases of yellow fever occurring in highly malarious regions, the remedies applicable to paroxysmal fevers, especially quinine, bark, iron and arsenic, and strychnia should be employed.

If swellings and abscesses and carbuncles arise after the cessation of the active stages of the disease, and thus continue the febrile excitement; as soon as the stomach regains sufficient power, the bitter tonics and tincture of iron and quinine should be freely used internally, and iodine and carbolic acid and tannic acid applied locally. In these cases, which are often protracted for weeks and months, the diet should be of the most nutritious character, with a liberal supply of porter and ale. The contents of abscesses should be discharged at the earliest moment.

The following is a brief outline of the plan of treatment based upon the preceding principles, which I carried out during the epidemic yellow fever of 1878, in New Orleans:

The total number of cases treated in my private practice was 256; total deaths 18. One death in 14.2 cases. Mortality 7.0 per cent. Of 256 cases 238 recovered, giving a per cent. of 93.35 recoveries.

1st. If there was any reason to suppose that the stomach contained undigested food, it was immediately evacuated by an emetic. Powdered ipecacuanha root, mixed with warm water, was most generally employed.

2d. The bowels were freely evacuated as early as possible. To accomplish this end, and also at the same time to induce an impression upon the system by quinine, from 10 to 20 grains each of quinine and calomel were administered to adults, and followed with a full dose of castor oil (oleum ricini), in doses of from half an ounce to one ounce for an adult.

3d. The action of the skin was excited by the use of the hot mustard foot bath, and mild diuretics as orange leaf tea and by frictions of fresh olive oil.

4th. The function of the kidneys was maintained by the regular use of cold water and Apollinaris water; by attention to the covering of the patient and avoidance of cold draughts.

5th. Absolute rest, in a well ventilated room, with absence of noise and excitement, and with careful nursing night and day.

6th. The patients were confined to barley water during the period of febrile excitement.

7th. The patients were not allowed to rise from the bed upon any pretext whatever. The medicines and drinks and nourishment were administered by means of the sick cup. Whether the case was mild or severe, the patient was required to remain quietly in bed from eight to fourteen days, and even longer in severe cases.

8th. In many cases, especially in adult natives of New Orleans, these measures rigidly enforced were sufficient.

9th. When the initial temperature was high and the pulse rapid, such antipyretic and antizymotic remedies were used as tincture veratrum viride, 2 to 4 drops in orange leaf tea, every two or four hours; frictions with quinine liniment, composed of from one to two drachms of the sulphate of quinia, mixed with three fluid ounces each of soap liniment and olive oil; sulpho-carbolate of sodium, 10 grains in orange leaf tea every 4 hours.

10th. Cold applications to the head, sedative water, vinegar and water, whisky and water, and cloths saturated in cold

water, were freely used when there was heat about the head and nervous irritability.

11th. Gastric irritation was treated by sinapisms to the epigastrium, cold applications, and in some cases cut cups, and carbonate of lime (precipitated) administered internally.

12th. As a general rule, the use of opiates and chloral was discarded. In some cases, however, attended with great nervous excitement, and unattended by urinary suppression, these agents were employed, and apparently with benefit.

13th. When the kidneys were involved seriously, and the urine diminished in amount, cut cups were applied to the loins, followed by flaxseed poultices. Bromide of potassium in such cases appeared to increase the flow of urine, and at the same time to quiet the nervous system.

14th. After the subsidence of the febrile excitement, iced champagne and beef tea were administered in small quantities at regular intervals.

In typhoid cases attended with tympanitic bowels, ice cold enemas, containing small quantities of tincture of assafœtida and oil of turpentine, were found to be beneficial. It was also found that in some cases large enema of ice cold water not merely reduced the febrile heat, stimulated the bowels to expel the gaseous accumulations, but also promoted the action of the kidneys.

15th. When secondary fever ensued, and presented an intermittent or remittent type, the sulphate and bromide of quinia were freely used, and when the stomach would tolerate nourishment and stimulants, beef tea, chicken tea, and tender beef steak, and good port wine and brandy, and whisky were administered.

16th. When carbuncles and abscesses supervened, and prolonged convalescence and endangered the life of the patient, the tincture of iron, quinine, the mineral acids and bitter tonics, with alcoholic stimulants, were freely used, together with nutritious diet, and the local application of carbolic acid, tincture of iodine, tannic acid and tincture of opium.

17th. Relapses were avoided by confining the patient to bed until the heart had regained its usual vigor, and by strict attention to diet of a simple but nutritious kind.

18th. Each case was carefully studied; accurate records of the temperature and pulse, and of the symptoms and treatment, were preserved, and the treatment directed accordingly. It was my experience that the careful recording of the symptoms, once, twice, and even three times daily, not merely aided the physician in the most effective manner, but also established a quiet and most valuable confidence on the part of the patient and his attendants.

In concluding these Clinical Lectures on the Yellow Fever Epidemic of 1878, whilst expressing my appreciation of the diligent attention of the students of the Medical Department of the University of Louisiana, I desire also to express to my pupils, my thanks to my kind friends and skillful physicians and surgeons, Dr. A. Foster Axson, Dr. Joseph T. Scott, and Professor Samuel Logan, M.D., of New Orleans, Louisiana, and Professor Henry F. Campbell, M.D., Professor L. A. Dugas, M.D., L.L.D., and Professor Lewis D. Foard, M.D., L.L.D., of Augusta, Georgia.

## The Influence of Diseased Teeth Upon the General System.

BY A. G. FRIEDRICHS, M.D.

I have chosen the above subject because, in the practice of my specialty, I have frequently come across cases of aggravated diseases, arising from neglect due to the ignorance of medical advice; and believe that the time has now arrived when practitioners of medicine should fully comprehend the importance of the teeth, and appreciate their influence, when diseased, upon the adjacent parts, and upon the general system.

Teeth should not be looked upon as mere pegs or nails inserted into living structure, but as organs having the most important relationship to the whole system; there hardly being a period in life that a knowledge concerning their growth and development would not be of some service to us in our practice, and I think if we, professional men, would devote a very small portion of our time to their study, we would thereby be rendering ourselves a future benefit.

Consider with me, for an instant, how they are supplied with nerves, their attendant ganglia and plexuses, their position in the maxillary bones (on each side of the oral cavity), their relationship to the antrum which is again in contiguity to the nasal fossæ. The posterior lower molars are but little removed from the tonsils, Eustachian tubes, the parotid region and the external and internal ear. The roots of the upper back teeth are near to the orbit and its important contents: more posteriorly they approach the spheno-maxillary fossa and fissure, all of which are frequently the seats of dental disease.

The gums and teeth, very often, are valuable aids as a means of diagnosis in hereditary sylphilis, scrofula and the various pathological conditions of the gastro-intestinal-mucous canal.

During dentition, a period so fraught with danger, that seven per cent. of the deaths are ascribed to teething. We can fully appreciate this, when we consider at this epoch, how much the spinal predominates over the cerebral system, when the slightest irritation could produce the most fatal results; for, that which causes a shudder in man, would very likely throw an infant into convulsions.

The symptoms of dental irritation may then be and frequently are confounded with congestion or inflamation of the brain; and full well we know what would likely be the result of a failure in a correct diagnosis.

I will mention a few of the maladies which are dependent upon or synchronous with the eruptive period, to-wit: cholera infantum, diarrhœa, constipation, increase or decraase of urine, convulsions, transient palsy of the arms and legs, insomnia, marasmus, etc.

The foregoing suggests to me the propriety of drawing your attention to that favorite method of treatment for actual or supposed dental irritation. I mean that of gum lancing. There is no doubt that the gums have been frequently lanced during the period of repose which characterizes evolution or when the osseous structure of the maxilla still remains unabsorbed over the advancing tooth. A great many physicians perform this operation indiscriminately, simply because they happened to stumble over a case where the relief of tension in the con-

gested tissue sufficed to relieve an attack of convulsions. The only time when the incision of the parts can be productive of any benefit is when the tooth is just beneath the gum and there is a manifest congestion; otherwise it is a procedure not only useless, but barbaric.

Retardation in the development of teeth is also a means of indicating future disease. For example, when their eruption is delayed beyond nine months, there is every reason to suspect that the child is suffering from rickets—a valuable means of diagnosing that disease, for which we are indebted to Sir William Jenner.

I will now mention some of those diseases connected with the teeth which occur at a latter period of life.

There is no affection that is of greater importance to us than neuralgia; certainly none more annoying to our patients.

Suppose we call to mind the extensive sympathetic connections of the tri-geminal nerve; it will not be strange to us that any portion of the face, neck, throat, or any of the associated parts that are supplied by the nerve itself or any of its related nerves, should be the seat of reflex trouble from a diseased tooth.

But recently a gentleman came to my office, who was suffering from a most agonizing pain shooting from the orbit of one side, across the forehead, to the other.

This neuralgia had continued for two months, during which time he had had hardly any rest, had eaten hardly anything, and when I saw him, was quite emaciated. He had been under the treatment of physicians, quacks, homœopaths and a hydropath, but with no relief. He never complained of the slightest pain from his teeth; but however, in examining his mouth for a cause, I discovered a semi decayed dead posterior superior bicuspid, with no connection between the cavity of decay and the pulp cavity. With a spear-shaped drill I established a connection between the two cavities, and relief instantly followed.

The cause of this neuralgia was the compression of the gases evolved from the decomposing pulp upon the dental nerve.

Dr. Johnston speaks of a case of a well known physician who was forced to relinquish an extensive practice, as a consequence

of a tic douloureux caused by an osseous excrescence growing from the dental wall.

Dr. Emmeuch reports a case wherein a man consulted him on account of a painful affection of his eye, which had lasted fourteen years and occasioned great suffering. There was considerable vascularity of the conjunctiva and scloritica, especially around the cornea, which structure itself was somewhat opaque and spotted. There was a continual flow of tears with pain and intolerance to light. All these symptoms were aggravated by any indiscretion in diet, or by the use of the slightest stimulant, such as a glass of wine. All kinds of remedies had been tried in vain at different times, and the affliction seemed incurable.

Dr. E. upon examining the upper jaw, discovered an extremely sensitive carious tooth in the side corresponding to the afflicted eye. The tooth was extracted, and immediately afterwards the eye-symptoms subsided.

The affection of the eye evidently was the result of sympathy between the second and third branches of the fifth pair of nerves.

Dr. Trudeau, of Paris, mentions an instance where insanity was caused by a diseased tooth. He says: "Mr. Equirol told me he had cured a young lady who was insane, of her mania, by the extraction of a second molar tooth which was preventing the growth of a wisdom tooth."

Epilepsy has resulted from dental irritation.

"Sometime in the year 1801," says Dr. Rush, "I was consulted by the father of a young gentleman in Baltimore, who had been affected with epilepsy. I inquired into the state of his teeth, and was informed that several of them in his upper jaw were very much decayed.

"I directed them to be extracted, and advised him, afterwards, to lose a few ounces of blood at any time when he felt the premonitory symptoms of a recurrence of his fits. He followed my advice, and, in consequence of which, I had, lately, the pleasure of hearing from his brother, that he was completely cured."

Likewise, general paralysis has been brought on by the same

cause. I will cite a case reported in the London *Lancet*, by J. L. Levison, of Brighton.

A young lady was brought to his residence, in a carriage, to have her mouth examined. On being removed, she was supported on one side by a lady and on the other by a man-servant. Her entire muscular system seemed paralyzed. Her legs trailed on the ground like useless appendages. Her arms, when raised, fell powerless immediately when unsupported. Even the muscles of her tongue were paralyzed, and in her effort to speak this important organ remained in a quiescent state.

On examining the mouth a dens sapientiæ of the lower jaw, very carious and deeply imbedded in the temporal muscle just below coronoid process, was perceived, and in which locality there was an extensive inflammation.

Extraction was suggested, and though some advantage was anticipated, the actual result was surprising.

She instantly obtained the free use of her tongue which she immediately used to communicate the important fact that ever since the extracted tooth had been forcing its way through the gums she could date the gradual loss of power over her limbs. One month after the complete use of her limbs was restored.

About two months ago, a case similar to the above came under my observation presenting all the paralytic symptoms except that of the tongue. She had likewise been a sufferer for several years, during which time, being a lady of means, she had availed herself of the services of gentlemen of recognized ability, both of this city and elsewhere, whose efforts, however, failed to afford any relief or arrest the progress of the malady.

Upon an examination of the mouth, the teeth were diagnosed as the source of the trouble. All of those organs in the superior maxilla were found in a very carious condition and the gums surrounding them were very much inflamed. Puss exuded from them, upon the slightest pressure.

Extraction was recommended, which operation performed, recovery, both rapid and complete ensued.

Sir Ashley Cooper speaks of hemiplegia being cured by the extraction of a tooth.

Catalepsy has resulted from toothache. A ploughboy, who had complained of toothache in the morning, half an hour after commencing work, was found lying a short distance from his plough, apparently dead. He was carried home and a physician sent for, who, after a careful examination, concluded that the affection must have been produced through the dental nerve. The tooth was extracted and the boy immediately got up and expressed himself as well as ever.

Dental abscesses have frequently been mistaken for scrofula. I positively know of a case of this kind being diagnosed as a cancer by a prominent surgeon of this city. This gentleman referred this patient to five other surgeons, so positive was he in this belief. All but one confirmed his diagnosis. The dissenting one advised her to see her dentist and ask his advice. The patient's mouth was examined. An impacted root was found, which was extracted. In one month, all vestiges of this supposed cancer had entirely disappeared.

There is a case of pyæmia caused by dental abscess, which is very interesting, and I will report it in detail.

"M. C. W., aged four years and a half, was admitted to Guy's hospital, under the care of Mr. Howse, on September 30, 1874.

"The family history was good, except that there was some account of a tumor in the grandmother. The child had been a healthy boy till six weeks before his admission, when he came home from school with a bad attack of diarrhœa. A few days subsequently, he was much frightened by a fire, and it was within a short time of this that his left eye was noticed to swell. In a fortnight the other eye did the same, but no notice was taken of it. He gradually grew worse, and for three weeks prior to his admission, he was in a drowsy state.

"On admission, he was delicate and vacant looking. The left eye was much more prominent than the right, with thickening along the upper margin of the orbit. Beneath the edge, under the eyelid, was a hard, cartilaginous, freely-movable body, which reached backwards apparently into the orbital cavity above the eyeball, while it extended downwards into the eyelid. The movements of the eyeballs were perfect, and sight was un-

affected. The temperature was 104.5° in the morning, and 102.7° in the evening; pulse 160.

"He was seen by Dr. Fagge, who could discover no cause for the elevation of temperature. Dr. Fagge thought, however, that as the roof of each orbit was evidently affected, and the boy tottered as he walked, and was peculiarly torpid, the disease, whatever it was, had extended from the orbital fossæ to the cerebral hemisphere. The ophthalmoscope revealed only large and tortuous veins, with a small hæmorrhage on the outer margin of the right optic disc. The temperature remained high, and he rapidly became much worse, losing control over his evacuations, and he died nine days after admission.

"The autopsy being held, the eyeballs were hardly prominent, but the left upper lid was full, and a hard, movable mass could be felt along the orbital ridge. The scalp was normal, and nothing wrong was noticed till, on the removal of the vault of the skull, the dura mater in its frontal part, and the longitudinal sinus for half its length, were rough and of an olive green color from purulent infiltration of the membrane. The corresponding inner surface of the skull was of the same greenish tint and rough all over, partly from the deposition of a layer of new bone, partly from an irregularly excavating caries. Confining the description still to the bones of the skull, nothing further was noticed till the roof of each orbit had been removed, and then a thick layer of similar green-colored pus was exposed, lying, of course, between the bone and the orbital periosteum. The orbital cavities (muscles, etc.) were quite healthy. On the right side the pus extended all over the outer side forwards, and appeared externally over the superciliary ridge, while it passed backward through the optic foramen and sphenoidal fissure *underneath* the cavernous sinus, across the stella turcica and grooves for the optic commissure, through the right optic foramen and right sphenoidal fissure, all this *beneath* the dura mater of the base of the skull, the bone itself being rough and carious, and part of the body of sphenoid infiltrated with a grumous, chocolate colored pus. Thus it appeared the right orbit had become affected after the left. On the outer side of the left orbit pus was traced into the spheno-maxillary fossa, and thence to the condyle of the lower jaw. The articulation

was free, but the whole of the condyle and much of the ascending ramus on this side was bared of its periosteum, and pus lined the inferior dental canal as far as the first molar tooth, which was decayed, lying loose in its socket, and with carious bone about it. It should also be said that, though the pus so closely surrounded the cavernous sinus on each side, yet these sinuses were quite unobstructed. So also was the longitudinal sinus, though its walls were very much thickened. The frontal sinuses were normal. The lump felt during life over the left superciliary ridge consisted of a tough, opaque, yellow mass, very much like some lymphomata as seen in the neck, or like a gummatous mass. It certainly had all the microscopic appearances of some new growth, but, after further examination, it was evidently of an inflammatory nature. Its precise situtaion was from the lachrymal externally to the inner margin of the orbital ring, and it lay half protruding from and half within the orbit, and adherent to the bone, which on its removal was bare of periosteum.

The brain weighed forty-eight ounces, and lymph was found at its base, and a dot or two of pus was found beneath the arachnoid on the left side, about an inch from the longitudinal fissure. None of the veins contained any coagula. The brain was exceedingly soft, and the number of small cavities formed by softened substance scattered throughout it was remarkable. The whole brain, cerebrum and cerebellum, was studded. Most of them were small—mere pin-points—but one or two were larger; and they had this peculiarity: that their walls were sufficiently well defined and hard to show that they were not formed by a general softening of the brain, more advanced at some parts than others, but that they were really due to numberless local spots of disease, very probably embolic. Ecchymoses were found in the aretinæ, on the pluræ and in the substance of the lungs, heart and kidneys; but no emboli could be found in the vessels. The lungs contained early pyæmic infarcts, and there were early abscesses in the heart and kidneys."

"There can be no doubt, from the post-mortem appearances, that the source or all this mischief was a decayed tooth. It had led to caries of the bone, to suppuration in the inferior dental canal, and thence the pus had followed the course

which has been described. It is a good illustration of the bad results which may follow a slight amount of mischief in an unhealthy subject, and is remarkable in that there is no history of toothache, swelling or other trouble about the jaws. Excepting a bad attack of diarrhœa, the first symptoms noticed was swelling, first of one eye, and then of the other. Notwithstanding that, by the time the second eye was affected, as shown by the inspection, there must have been considerable suppuration at the base of the skull, about pituitary fossa, and very probably about the vault also, the disease at its onset must have been peculiarly insiduous, and the pyæmia of late accession, within a few days of his admission.

In one of the numbers of the "Bibliotheque Germanica Schurgical," there is an account by Dr. Seibold of a young woman who had been affected for several months with great inflammation, pain and ulcers in her right upper and lower jaws at the usual time for the appearance of her catemenia, which were always deficient in quantity. On inspecting the seat of trouble, the doctor found two decayed molar teeth, which he directed to have drawn, in consequence of which, the patient was relieved of the monthly disease of the mouth, and ever afterwards had a regular discharge of her catemenia.

Amaurosis has been known to have been produced by the over-crowding of teeth in the maxillæ.

Even sciatica has been said to have been cured by the extraction of a tooth.

A great many of the tumors of the maxillæ, from a simple absess to an odontome, have their origin in a diseased or impacted root which, if only recognized in their incipiency, how easily could the remedy be applied and the disease cured!

These facts, though but little attended to, should not surprise us when we recollect how often the most distressing diseases are brought, by very inconsiderable inlets of morbid excitement, into the system. A small tumor, concealed in the fleshy part of the leg, has been known to bring on epilepsy. A trifling wound with a splinter or a nail, even after it has healed, has often induced a fatal tetanus. Stone in the kidney has excited the most violent commotions in every part of the system. Certain mental states affect certain functions in cer-

tain definite ways. Sudden anxiety may cause increase of peristaltic action, and joy diminish the gastric secretions, and cause a loss of appetite.

Hundreds of facts of a similar nature are to be found in the medical records.

Is it surprising then that the teeth should often be the unsuspected cause of general and particularly of nervous diseases? Consider how often the teeth are exposed to irritation from hot and cold drinks and ailments of all kinds. What morbid effects would likely arise from the putrid and acrid discharges from decayed teeth and diseased gums, when introduced into the stomach. I may also add what influence these organs have upon perfect mastication, when in a pathological condition; and, again, the connection of mastication with good health!

Imperfect digestion must follow, and you rarely find a person whose teeth are in a diseased condition who is not a sufferer from dyspepsia—a disease which daily baffles the efforts of the doctor to cure, and few there are who have not experienced the sensations so graphically described by Cowper:

> "I awake like a toad out of Acheron,
> Covered with the ooze and slime of melancholy."

It is not strange that diseased teeth should produce dyspepsia. It is easily accounted for. In the first place, the food is improperly prepared for the stomach; secondly, the fluids of the mouth, constantly trickling into the stomach, impair its tone and vitiate its solvent secretions; and thirdly, a continual demand made upon the system by the vain efforts which nature makes to cure the diseases of the teeth, and also the frequent and severe pain diminish the nervous influence which the stomach receives, and impairs its powers.

Now I have no doubt that our success in the treatment of a great many, if not all chronic diseases, would be greatly promoted if we would only direct our inquiries to the condition of our patient's teeth—advising their treatment when diseased. It is not necessary that there should be the slightest pain, or even one symptom that would attract our attention to the offending organ. Splinters and tumors and other irritations have caused disease and death, and were unsuspected as the

cause. Translation of sensation and motion from parts affected to parts remote seems to be an original law in the animal economy.

All this is not an issue of yesterday. Tissot, who wrote nearly a century ago, was fully aware, from observation and clinical experience, of the great importance of diseased teeth to the general health. He described toothache as resulting from gout and rheumatism—as producing disorders of the stomach and noxious matters, which, according to the pathology of his time, was the mode of expressing what we mean by constitutional disorders.

It also must not be forgotten that the teeth are often made the fools for the other organs. They are just as liable to be the objects of sympathetic irritation, and in the absence of adequate knowledge as to the cause of pain, have been condemned for the faults of their fellow-organs.

Toothache has resulted from constipation of the bowels.

Gout is frequently ushered in with the most terrific dental suffering. Dr. Cartwright speaks of a gentleman suffering from hemorrhoids, who always had an acute pain in his upper molar teeth, but which invariably ceased when a hemorrhage relieved the engorged vessels.

The foregoing cases are but a few of the great number that might be collected, showing the importance of the teeth, in healthy and unhealthy conditions, to the welfare of the whole system.

They will certainly be sufficient to arouse the physician to the necessity of regarding the agency of these organs when diseased, in the production and continuance of disease.

It is nevertheless strange that physicians have paid so little attention to so important a subject, when such men as Hunter, Rush, Darwin, Halford, Chapman, Garretson, and many others have taken special pains to call the attention to its importance; but more than that, they have gone unheeded.

In our recent text-books, this subject is barely mentioned. I can see no other reason than that the teeth are objects that are visible to the naked eye, and on that account were considered as undeserving of notice. Were they but microscopical

objects, they doubtlessly would have received their due consideration.

Unfortunately it has become the fashion to study pathology more in the dead-house upon the cadaver, than in the sick room at the bed-side.

While I am upon this subject, I cannot refrain, before concluding, from mentioning what stupidity some medical men display when asked by their patients to select for them a dental operator. They must consider one man as equally as capable as another, or they do not fully comprehend what irreparable damage may be done by an ignoramus. I frequently see, at my office, patients who have been recommended to well-known quacks who had put the former's teeth in the most deplorable condition, and, in some instance, beyond redemption.

Certainly cases of this kind reflect most incredibly upon the intelligence of medical men who should have known better.

They not only have betrayed the trust confided to their judgment, but caused unnecessary pain to be inflicted; had the system put in a condition less resistable to disease and aggravated existing maladies conspired, in a manner to rob the unsuspecting one both of time and money, and finally lowered themselves in the estimation of their clients, of their confreres, and of all men who have any appreciation of decency and self-respect.

Allow me to ask, would any respectable physician think—ay, ever dream of sending their patients to any but a competent and reliable oculist or surgeon? Then, with due defference to suffering humanity, the physician should consider it his bounded duty to select none but proficient, trustworthy and skillful oral surgeons.

In conclusion I fully coincide with Dr. Fitch, who rightly and ably remarks: "We are not to contemn the diseases of the teeth, because they seem insignificant. Many persons are formed of a fibre so fragile as to be broken by the slightest shock; of a stamina so delicate, as to be affected by the slightest impression. Disease in its steps at first is, as it were, soft and hesitating, weak in its powers, and slow in it progress. But every instance of indulgence, and each succeeding advantage gained, confirms its step, increases powers and hastens its

progress, and what but a moment ago seemed a thing too insignificant to mention, now rises a monster that derides human effort and whose sting is the arrow of death.

"Almost inappreciable are the beginnings of many fatal diseases; and could the grave reveal its secrets, I have not a doubt, when I consider the number of diseases produced by diseased teeth, that it would be found that thousands are there in whom the first fatal impulse was given by a diseased state of these organs; and could I raise my voice so as to be heard by every medical man in America, I would say to them: attend to your patient's teeeth, and if they are diseased, direct such remedies as shall restore them to health; and if in health, such means as shall keep them so."

## The Chain of Circumstances connected with the Appearance of Yellow Fever in New Orleans during the Summer of 1879.

By JOSEPH HOLT, M.D., New Orleans, La., August 2, 1879.

*Mr. President and Gentlemen of the New Orleans Medical and Surgical Association:*

Impressed with the peculiar and unfortunate experience, almost invariably associated with the history of the many outbreaks of yellow fever in this city, the uncertainty concerning the locality of the first cases and precise date of their occurrence, the source or origin of the disease, whether imported or indigenous, and remembering with regret the diversity of opinion in relation to these particular points which has repeatedly given rise to protracted and wearying discussions, sometimes unamiable, even rancorous, and seldom profitable, the whole question becoming finally involved in hopeless entanglement and abiding in doubt, this Asssociation has deemed it of paramount importance to mark out for its members a plan whereby they may guide themselves in an earnest endeavor to elicit the truth, while avoiding controversy as at all times useless. Recognizing as principle among

the obstructions to knowledge concerning the origin or apparent beginning of the infection, certain faults on the part of practitioners themselves, such as carelessness in observation, negligence in the immediate recording of particulars, a strong bias in favor of some special theory, and, in a few instances, the over-riding method of maintaining a point by positive and vehement assertion, *when not assured of the facts*, the New Orleans Medical and Surgical Association, warning its members, has charged them, while observing the utmost prudence in speech and caution in pronouncing an opinion, to take instant cognizance of all facts and circumstances associated with the first cases, suspicious or assured, immediately to record the same and so to report them, to the end that this Association may furnish itself with data, from which to draw conclusions of practical value, in advancing knowledge concerning the origin and possible prevention of yellow fever.

In accordance with the spirit of my instructions, I present the following series of cases, giving the evidence without comment, just as I received it, and above all, without intruding my personal opinion:

AN EPITOME OF THE TESTIMONY OF MR. AND MRS. STOUT.

The family of Mr. John S. Stout, consisting of himself, wife, five children and Louisa Creel (servant), arrived in New Orleans, from their summer residence on the lake shore near Mississippi City, December 2d, 1878. They occupied as their residence the house No. 184 Third street, between Constance and Magazine streets.

They had never spent a summer in New Orleans, and were unacclimated.

They found the premises very clean, except the privy vault, which was foul and had not been cleaned for at least a year previous. With the advent of warm weather the privy became horribly offensive, and was cleaned June 8th.

Several cases of yellow fever, with a death, occurred in this house during the epidemic of last year.

The health of the family remained perfectly good until—

*Case* 1.—John Stout, white, age 9 years, native of New Orleans. He awoke about six o'clock, the morning of June 16th,

complaining of feeling ill, of headache, pains in the limbs, and was found to have fever. During the day his condition continuing to grow worse, Dr. Souchon was sent for. The fever continued, with slight remissions, for four days. During its continuance his eyes were red and face flushed. Repeated hæmorrhages from the nose, to which he was subject, occurring day and night during the fever, peculiarly characterized the attack. Fever subsided on the 20th, leaving him very weak. Convalescence rapidly established.

*Case* 2.—Eleanor Stout, age 3 years, native of New Orleans. She awoke from a noonday sleep about 2, P. M., June 17th, with fever, which lasted four days; at no time very high, the paroxysm characterized by marked remissions. Recovered.

*Case* 3.—William Stout, age 5 years, native of New Orleans. Was taken ill Sunday, June 22d. He awoke early in the morning with fever and other symptoms, as in case 1. Fever of one paroxysm of about four days. Both cases, 1 and 3, had irritable stomachs, with frequent gaging and occasional vomiting of water taken. Hæmorrhage from the nose, as in case 1. Recovered.

*Case* 4.—Jennie Stout, age 4 years, native of New Orleans. Awoke about 3 o'clock, P. M., June 27th, with fever, which lasted in one paroxysm, with a marked daily remission, three days. Hæmorrhage from nose slight during night of second day. All the symptoms mild. Rapid convalescence.

*Case* 5.—Mr. Joseph Oswald—brother of Mrs. Stout, and recently staying at her house—age 36 years, native of Mississippi, had never had yellow fever.

Was taken Saturday, July 12th, about 3 P. M., with a violent headache and nausea. He retired early in the evening, and awoke the following morning with these symptoms aggravated, severe pain in the back and fever. The attack continued as a fever of one paroxysm of forty-eight hours.

Convalescence slow but continuous.

*Case* 6.—Lucy Stout, age 7 years, native of New Orleans.

Was taken Monday, July 14th, awaking at an early hour with fever. She dressed herself and attempted to walk about,

but complained of being so hot and feeling so badly that she again laid down, and slept for the greater part of the day. During the night the fever became intense, and lasted in one paroxysm nearly five days.

Stomach irritable during the attack. Nose bled one night in latter stage of the fever. She was sicker than the other children had been, and convalesced more slowly.

*Case* 7.—Mr. John S. Stout, age 40 years, native of Kentucky. Occupation pilot on board the Thompson Dean, in the Vicksburg trade. Was taken ill Thursday, July 17th, at 11 o'clock P. M. with pain in head, back and limbs.

He was then on board of the boat about twenty miles this side of Vicksburg. At 1 o'clock in the morning he was seized with a chill, and had to be relieved from duty at the wheel. A high fever followed, which lasted until Sunday morning—about fifty hours. During its continuance he suffered intense pains in the back and limbs. The fever left him greatly prostrated. Convalescence slow but regular.

Cases 1 and 3 having quite recovered, left the city July 6th, on a visit to their relatives over the lake in company with Louisa Creel who was going into the same neighborhood to see her mother. This girl had been perfectly well during her stay in the family of Mr. Stout.

*Case* 8.—Testimony of Dr. J. J. Harry.

HANDSBORO, Miss., July 31, 1879.

DR. JOSEPH HOLT.—*Dear Sir:* In reply to your communication of the 29th instant, I present the following:

Louisa Creel, white, age 16 years, native of Perry county, Mississippi, had never had yellow fever, was recently employed in the family of Mr. Stout, New Orleans. Arrived at her home, mid-day July 6th. About 3 o'clock, P. M., of the same day, was seized with a chill, pains in head and limbs, nausea.

I was called to see her at 4 o'clock, A. M., July 8th. She was delirious and continued so until her death. Face dark brown or bronze color; eyes, injected red; tongue, furred in centre and red at edges and tip; gums, spongy and red; excessive nausea; suppression of urine. Second visit, evening of the same day, symptoms same, except symptoms of uremic poison-

ing with threatened convulsions. High fever continued to within a few hours of her death.

July 9th. Patient in articulo mortis; capillary congestion and stasis. I saw no hæmorrhage from gums or nose, but was told she had black vomit before death. Suppression of urine beginning three days before death. Black vomit from mouth. No urine could be obtained to test. Died in convulsions on the morning of the 10th July. She was not seen by any other physician.

ADDITIONAL EVIDENCE OBTAINED BY DR. KILPATRICK OF THE NATIONAL BOARD OF HEALTH.

"She threw up largely of black vomit and purged the same matter just before death. She died in the fourth day of her illness."

Dr. Kilpatrick continues:

*Case* 9.—Thomas Crèel, white, male, aged 21, born in the vicinity, brother of Louisa, was taken sick eight days after her death, or on Friday, July 18th, 1879. He had a chill and an indescribable sensation of pain and restlessness. Dr. Pelaez saw him; pulse 108; temperature 103; tongue coated, red at tip and edges; no nausea then; not much thirst; eyes red, conjunctivæ intensely injected. There was no suppression of urine, but it was highly albuminous. There was also slight delirium; great tenderness of the epigastrium. On Monday, 21st, he passed, *per rectum*, considerable quantities of dark fluid usually called black vomit, and on Monday night, 21st, he began to throw up black vomit, which he continued to do at frequent periods till death. About 72 hours after the attack came on, the fever subsided. Suppression of urine came on, Tuesday, 22d. He discharged urine at 4 o'clock that morning, but no more afterward. At 10 o'clock, A. M., Tuesday, the catheter was introduced, but no urine could be procured for analysis or testing. I saw him at this time, and noted the pulse was 72; temperature 101°; tongue furred, edges and tip red; gums red and spongy. He gradually sank, and died at 5 o'clock, A. M., Thursday, July 25th.

*Autopsy.*—Dr. Pelaez made the autopsy, with my assistance. Five hours after death there was intense *rigor mortis;* cadaver

was extremely yellow, and the ears, neck, and all depending parts highly ecchymosed. The subcutaneous adipose tissue was highly tinged yellow, and the abdominal viscera were all tinged in the same way, as was the tunica adnata. The liver was firm, pale straw or boxwood color. On being cut, no blood issued from it at first. The spleen was a little enlarged, but no abnormal appearances. The kidneys were nearly double the normal size, and highly congested. They were soft and flaccid, and the capsules were easily detached. The stomach was distended with gas, and on being opened a considerable quantity of black vomit was seen. The coats were softened. All the colon was contracted to the size of the jejunum. The urinary bladder was found empty. The serum in the pericardium was of a pale straw color. The heart was nearly twice the normal size, soft and flaccid, and when one auricle was opened a large quantity of dark-colored fluid blood ran out.

*Case* 10.—Caroline, aged 12, sister of Louisa, was taken sick on Friday, the 18th, about three hours after her brother Thomas began to complain.

*Cases* 11 *and* 12.—Arabella, æt. 6 years, and Samantha, æt. 8 years, were taken sick on the 19th, the day after Thomas and Caroline came down with the fever. Arabella had suppression of urine some hours on the 22d, and was delirious, but they both recovered.

*Case* 13.—Edward, brother of Louisa, aged about 20 years, was taken sick on Sunday, the 20th, having the same symptoms in a milder form. On the 22d his pulse was 60, and temperature 103 $^{3}|_{5}$ °, at 10 o'clock, A. M. He recovered. Of the six cases, two died. They were all yellow, had furred tongues with red edges and tips, and eyes intensely injected and yellow.

*Case* 14.—Dr. Joseph Holt—*Dear Sir:* The following outline of the case of Mr. W. B. Heyward's son, aged 8 or 10 years, who was attacked with yellow fever near the Creel house, two and a half miles from Mississippi City, were given to me verbally by Dr. Pelaez, the attending physician.

Shortly after the death of Thomas Creel (which took place on the 25th of July), Mr. Heyward's son fell ill with the fever. His attack was ushered in by a chill in the evening, followed

by high fever with severe cephalalgia, pains in the back and limbs, pulse frequent and temperature 105°. His tongue was furred in the centre, and the tip and edges quite red. He evinced uneasiness of the epigastrium on pressure, had some nausea and great thirst. His eyes were also injected and adnata discolored.

In sixty hours from the beginning of the fever, he threw up black vomit freely, and passed it in quantity from the bowels.

His urine was tested and found to be loaded with albumen. Suppression of urinary secretion occurred, lasting sixteen hours, the catheter having been passed without finding any urine in the bladder. The secretion was restored and the vomiting controlled.

The case went on improving to convalescence. The day of my interview with Dr. Pelaez was the fourteenth of the little boy's illness. He was then quite prostrate, deeply jaundiced, and his body covered with furunculi.

It is interesting to know how far the attack of this case may be traced to the focus of infection at the Creel house. Mr. Heyward, when interrogated by me, furnished the following facts: "My son was in almost daily association with the eldest Creel boy, Thomas—who afterwards died of yellow fever—and a younger one. These two boys came every day to my house at meal-time to obtain food for Mrs. Creel and family.

My son was also greatly interested in the building of a boat on the beach by these Creel boys, and spent some time every day with them while engaged in this work.

"During the sickness of Louisa Creel, he was in the habit of going to the gap in the fence, opening at a point not more than eight or ten yards from the Creel house, lingering there and conversing with the children."

Mr. Heyward, when asked, could not say that he knew of his son's having ever passed beyond the gap, or of his having entered the Creel house while there was sickness there.

The distance between Mr. Heyward's premises and the Creel house, is about two hundred yards.

Regretting that I cannot give you a more satisfactory detail of the above case, I am, yours,

Very respectfully,

J. P. Davidson, M.D.

*Case* 15.—Vincenza Spano, aged 16 years, native of Italy; in New Orleans two years. Residence, corner Second and Constance streets, about three hundred feet from the family of Mr. John Stout. Was not in the city during the epidemic, but encamped near it. Had never had yellow fever. Was taken ill, Wednesday, July 23d, about 8 o'clock, P. M., with severe headache, pains in back and limbs, and fever, not preceded by a perceptible chill. Dr. Mainegra was called at 9 o'clock the next morning. Temperature 105½°. Tongue heavily coated with white fur, pointed, edges cherry red, gums and mucous membrane of mouth red. Eyes much injected, face flushed a dusky red. Stomach irritable and exquisitely tender on pressure; vomiting frequently of fluids taken.

Her condition continued the same with slight variations of temperature of one-half of a degree morning and evening, until Sunday morning, the beginning of the fourth day, when the temperature declined to 103°, and pulse to 80. Her state was then one of great depression, tongue and gums angry red. Capillary stasis. Yellow suffusion of skin strongly pronounced. Eyes yellow and somewhat congested. Stomach irritable, with a frequent desire to vomit. Urine scanty, almost completely suppressed and highly albuminous. No delirium, but a lethargic calmness.

Was seen during the evening of the same day, Sunday, 27th, by Dr. R. Bailey, Sanitary Inspector of the Fourth District, Drs. Bemiss, White, A. C. and Joseph Holt. These gentlemen, with one accord, pronounced the case one of yellow fever.

During the night she became wildly delirious, purged blood from the bowels and threw up a small quantity of black blood. She died at 5 o'clock Monday morning.

The corpse presented those appearances strongly marked so characteristic to an experienced eye.

*Case* 16.—Caroline Mainegra, aged 2 years, native of New Orleans. Unacclimated. Residence, corner Washington and

Magazine streets, two squares and a half from the house of Mr. Stout.

Was taken July 21st, at 8 o'clock, P. M., with fever, which continued with slight variations of temperature 72 hours, and accompanied by great stupor. Tongue, gums and mucous membrane of mouth of a decided red color. Fever subsided on the fourth day, and convalescence rapidly established. Her father, Dr. Mainegra, was the attending physician.

*Case* 17.—John Knoph, age 33 years, native of Norway. In the United States nine years, in New Orleans eight months. Residence 123 Seventh street, between Constance and Laurel streets. Was taken ill July 25th, at 9 o'clock, A. M., with slight chill, followed by high fever, pains in head and limbs.

Was seen on the morning of the third day by Dr. Mainegra, the attending physician, accompanied by Dr. Joseph Holt. High fever; eyes congested and yellow; skin dusky aed with yellow tinge; tongue furred and red at edges; gums and mucous membrane of mouth red. Stomach irritable; patient restless.

On the following day seen by Dr. M. General symptoms the same. Urine highly albuminous, and almost suppressed. This symptom continued the same on the fourth and fifth days and the urine very bloody. Great irritability of the stomach.

Fever lasted in one paroxysm of 120 hours. Temperature sustained at 104° A. M., and 105° P. M.

Dr. C. B. White saw him with Dr. Mainegra, and concurred in the diagnosis—yellow fever.

Convalescing slowly.

*Case* 18.—Bernard S. Berkson, white, age 4½ years, native of New Orleans, but absent heretofore during the summer, and unacclimated. Residence 217 Third street, between Magazine and Camp streets, within 350 feet of the family of Mr. Stout.

Was taken Saturday, July 26th, at 10 o'clock, A. M., with a fever rapidly ascending to 105°. Dr. Bickham was called immediately.

The high grade of the fever was sustained until the morning of the third day when it declined to 103°.

Tongue and mucous membrane of mouth red; gums red and swollen. In the latter stage of the attack hæmorrhage occured

from two small boils, one on the neck, the other on the back of the head. The blood presented that peculiar character of having lost its plasticity. Stomach irritable. Urine from the third day heavily albuminous, no suppression. Skin quite yellow.

Died at 4 o'clock, P. M., July 31st; sick 126 hours. Congestion of the brain characterized the case. The last three days of its illness the child was constantly in a state of restless delirium. Convulsions threatened during the last two days, and occurred a few hours preceding dissolution.

Having proceeded thus far in a chain of evidence, as shown in the recital of the particulars in relation to the foregoing series of cases, it only remains for me to state that in doing so, I have presented all the testimony that seems to have any bearing upon the subject of this investigation from the beginning to the present moment.

To the personal friendship and professional courtesy of Dr. Souchon, but above all, to the high regard which that gentleman entertains for this Association, am I largely indebted for information concerning the first apparent links in this chain.

As presented to him, the cases, taken by themselves, their comparative mildness, irregular course, and uniform recovery, were so equivocal as to have necessitated his pursuing that prudential course so strongly enjoined upon the members of this organization. Subsequent events—an experience common to us all—aroused suspicions, and furnished ground for an opinion to which the cases in the family of Mr. Stout, by themselves, would not have given rise.

## Resuscitation of Still-Born Infants.—McDaniel's Method.—A Case.

[Read before the Bullock County Medical Society at its Monthly Meeting, June 2, 1879.]

By C. H. FRANKLIN, M.D., Union Springs, Ala.

GENTLEMEN:

Those of us who were present at the State Medical Association in Selma, last April, will, I am sure, recollect with pleasure the very interesting and exhaustive paper, read by Dr. E. D.

McDaniel, of Camden, Ala., on the above subject. The doctor claims to be the originator of the method, and expresses some surprise, as well as mortification, that some European authorities have adopted the plan without giving him the honor of its origination.

It may be in place to mention that he read a monograph on the same subject, in which most of the points of interest were embodied, before the American Medical Association at its session in New Orleans, in 1869, and that through the transactions of that body, knowledge of it may have been obtained in Europe.

As, however, we will soon have an opportunity of reading the entire plan in our State Medical Transactions, it is hardly necessary to say more of the method than that it consists in subjecting the still-born babe, with about the frequency of ordinary respiration, to the alternate prone and supine position, that is the thorax is to be inclined to the abdomen to an angle of about 45° and back again to the line, the diaphragm thus playing the part of a piston, and the thorax a cylinder as it were, in alternately diminishing and increasing the chest capacity. The relative difference between this and the method usually employed, was shown by the spirometer to be considerably in favor of McDaniel's plan.

My case was, I think, a most happy one to test the efficacy of the method. The woman was a white primipera, with shallow pelvis, and otherwise fair development. I visited her April 21st. She had been in labor, she said, fourteen hours. On examination, found the womb tolerably well dilated, vertex presentation with pains feeble and long intervals. The soft parts were satisfactorily soft and dilatable. The labor continued tedious for some hours. Hoping to increase the efficiency of the pains, the womb now being apparently fully dilated, with pains rather more of an expulsive character, I ruptured the membranes. Only a few ounces of amniotic fluid escaped, and with it a prolapsus of the cord became manifest. Several ineffecual efforts were made to replace the cord. The head soon engaged fully in the strait, notwithstanding the partial uterine inertia, and thus precluded all hope of its reintroduction. Fearing the

continued pressure upon the cord would destroy the child, ergot was given to hasten the delivery. A protracted pain gave birth to the head, but the interval that followed, we thought, was of full seven minutes duration, during which time two small doses of ergot were given, the patient being exhorted to bear down, unphilosophical as it was, it being manifestly certain that no woman can bear down effectively without the co-operative influence of a uterine contraction. During this unnatural confinement of the child, we did what we could to enable it to breathe by forcing fresh air under the cover, and placing and sustaining its mouth in the most easy and exposed position. There was no pulsation in the cord and when, finally, a pain occurred, and by aid of gentle traction the second stage of labor was complete, there supervened, or rather there was existing that relaxed or inelastic feel in the child that an educated touch would readily recognize as death. I noticed, also, that the meconium had passed. I hastened to lay him on his right side, with his shoulders slightly elevated, and arranged the cord immediately, so as to protect it from further compression, hoping that the blood might resume its course through the fœtal circulation. He made no effort to breathe, there was no gasp, he was completely relaxed—he was apparently dead.

I at once determined to test Dr. McDaniel's method alone, believing at the time I heard him read his paper that it embodied the most philosophical plan that I had yet read, and accordingly began, the little fellow being still inclined on his right side. After subjecting him to the alternate prone and supine positions five or six times, in frequency about equal to the natural respirations in the child, I noticed that bronchial rales were produced, thus proving that the air did enter at least the larger tubes. I had no means of definitely determining the time, though I thought it was full ten minutes that this rythmical movement was kept up before manifestations of returning vitality made their appearance—first by a gasp, two or three movements, the large rales continuing and deepening apparently, and another gasp. Soon the lungs showed more marked evidence of expansion and contraction, and by and by a feeble cry.

The recovery was slow, the child continuing quite feeble for more than an hour, not crying, but for the most part of the time merely whining, but it was breathing. He is since doing well, his parents and friends feeling that his life is due to the persistent efforts at resuscitation.

I do not recollect whether Dr. McDaniel referred to position in his method, though I believe, considering the anatomical peculiarities of the fœtal heart, that some advantage may be obtained by placing the child on the right side, as the force of gravity might thus have some influence in closing the foramen Botalli, and favoring the course of the blood along the pulmonary veins to the lungs. I believe this idea was original with the late Professor Meigs as far back as 1832, and though it has been subjected to some criticism, I nevertheless think it will have an auxiliary influence. It is, moreover, the most convenient position for the accoucheur to practice this particular method of resuscitation. I am aware that Meigs employed it in Morbus Ceruleus, but I think, after a little consideration of the fœtal peculiarities of the circulation, that any one will see that it is quite as applicable to cases of suspended animation in still-born infants.

## CORRESPONDENCE.

MONTECELLO, Ark., May 15, 1879.

*Editor of the New Orleans Medical Journal:*

Dear Sir—I have read with much interest the various causes that produce yellow fever as promulgated by the many writers on this very grave question, and it seems to be a settled fact that the fever is produced by animalcula or bacteria, and they produced by stagnated pools in warm climates and in stagnated waters in the hulls of ships. But it seems to be a mooted point yet, as to whether it is imported into this country from some distant seaport or island.

The last and most grave question that now seems to be occupying the mind of the profession is, as to how the ravages of this fell-destroyer can be checkmated.

Some think that national, state and municipal quarantine will put a stop to it; others seem to think it can be frozen out in ships and houses where it has prevailed; all of which I think is an impossibility and an absurdity.

First. History has established the fact beyond contradiction, that quarantine has never checked its ravages in any country where there was a cause, and where there was heat enough to develop that cause and disseminate the same through the air, to be wafted over the country in the form of a cyclone.

Second. Freezing it out in ships or houses in a few days is absurd, from the fact that in all places in-doors, there are crevices or places where these insects can secret themselves and the cold (however intense it may be) cannot reach them, and just so soon as the cold is withdrawn and heat applied the insects come forth again, as they can only breed in a heated atmosphere. Nothing can starve them out, only a long continued season of cold weather. Just as soon as the heat is commenced to be withdrawn, just so soon does the animalcule begin to cease to germinate and to produce its ravages, and so long as the cold continues there is no danger of yellow fever, and if the season of cold is long enough and intense enough there is a hope that the cause has died out. But with a short time of cold, however intense it may be, it will still leave the seed in places that the cold has failed to reach, and so soon as heat is applied, just so soon will they commence to germinate, and the same results will follow as did before the cold was applied or when the cause first made its appearance.

My opinion is that nothing but proper drainage and cleanliness of cities, houses and the premises about the same, will do any good in stopping the ravages of yellow fever, and if the Government and States would spend as much money in trying to produce cleanliness among ourselves as they have spent in looking abroad for the cause and trying to fence it out, they would do far more good in the premises. Here is a thought for the wise ones to think about.

J. N. Slemond, M.D.

[Dr. S. is certainly wrong in his first proposition. There is no reason to suppose that Arkansas and Texas owed their escape, from the ravages of yellow fever in 1878, to any climatic

or sanitary advantages over Mississippi and Tennessee, or to any other advantage than more effectual exclusion of the specific infection. If this infection were "wafted over the country in the form of a cyclone" through the atmosphere, it would have extended over the whole country within a month; whereas, we know that the disease is neither spread nor retarded by winds.

As to local sanitary conditions, observation amply proves that yellow fever is not mitigated by good nor aggravated by bad sanitation. The three conditions needed for a prevalence of the disease are subjects susceptible to its specific cause, the presence of this cause, and a temperature high enough to render it active. Eliminate one, and the other two fail.—S. S. H.]

# Current Medical Literature.

## HÆMATINIC PROPERTIES OF DIALYZED IRON.

Dr. Robert Amory, in the *Boston Medical and Surgical Journal*, contributes a very interesting series of observations on the hæmatinic properties of dialyzed iron. After describing the instrument used and the method of computing the richness of the blood in corpuscles, he takes up and compares the dialyzed with other preparations of iron, and reports his observations on five cases of anœmid, and shows "that, under the continued use of ninety drops of solution of dialyzed iron per diem this condition of impoverished blood was replaced by an increase in the number of corpuscles" * * * "and the symptoms of ill-health simultaneously disappeared with this improvement."

"Dialyzed iron may increase the globular richness of blood, but it may have no effect in bringing about the chemical combination of oxy-hæmoglobin. If the supposition be true that there is a state of ill-health in which the corpuscles may be numerically normal, but may simultaneously be deficient in coloring matter, we may conceive of an anæmic or chlorotic patient who may require some therapeutical means for im-

proving this deficiency other than simple iron. I may have been extremely fortunate in selecting just those cases in which a simple form of iron was indicated, and it may not be impossible that another form would have benefited my cases as much as the dialyzed iron; yet the latter is preferable to the more astringent iron salts, because it does not impair the digestion, nor produce constipation.

"Now, one final word about the various solutions of dialyzed iron. Many of these solutions are valueless, some are very dilute, and a few are of pretty uniform standard, and contain only the products of dialysis from a salt of iron and distilled water. If physicians use a worthless preparation, they need not expect an improvement in the anæmia; if they use a dilute solution, they must prescribe a larger amount of the solution. In the preparation I used for these experiments the solution had a specific gravity of 1042, and had no free acid."

[The dialyzed iron used in making the experiments was from Messrs. John Wyeth & Bro., manufacturing chemists, Philadelphia.—EDS.]

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## A CASE OF HYDROPHOBIA CURED BY KURARA.

[Translation.]

Dr. Offenberg, of Wickrath, Germany, has, in 1874, had a case of this disease under treatment at the hospital in Münster, and lately published a very detailed description of it. The history of the case is too voluminous here to be given in extenso, and we will have to content ourselves with giving a synopsis of the same.

An autopsy of the dog who had bit the patient was not made. According to a description of the condition of the dog, a veterinary surgeon pronounced it suffering from hydrophobia, and caused it to be killed the same day it bit the girl. It appears to us, however, that many points in connection with the late disease of the patient justify the diagnosis, and that hardly any doubt as to its correctness can be maintained, in spite of the missing autopsy. The dog had been chained for 19 days when it attacked the patient. The proprietor of the dog states that it was not usually snappish, and knew especially well the patient, who several times daily passed the dog, and favored it occasionally with food. The assault was entirely unfounded, and was followed immediately after by a striking change in the habits of the animal, which became very turbulent. There had previously been noticed several cases of hydrophobia in that part of the country, and a dog on a neighboring farm had undoubtedly been attacked by this disease in the latter part of June; it had bit several animals and persons—among others its master, who, July 29th, was suddenly attacked by hydrophobia and died July 31st. Some days later a donkey on the same farm, and which had been bit by the

dog, became strikingly turbulent and snappish, assaulted especially calves, and had to be killed. It is highly probable that this dog, in which the disease in the beginning manifested itself, by roaming about at that time had been together with the dog on the neighboring farm, where the patient was bit.

The patient, a girl, 24 years of age, was bit, July 28th, in the heel, and July 30th she went to the neighboring farm to see the physician attending the gentleman who had also been bit, as above mentioned. They prescribed a concentrated solution of potash, and advised her to cauterize the wound with it; she did so, dipping pieces of linen in the liquid and applying them, and she produced by this method an extended and quite dry cauterization about the size of the palm of the hand on and about the wound. She was persuaded to stay and nurse the sick man and witnessed consequently his violent attacks of spasms, raving and finally his death. She used also an arcanum consisting principally of a concentrated solution of cooking salt, which produced pain in her throat when she drank; she therefore refused drinks, which was supposed to be symptoms of hydrophobia. The physician who was summoned did not examine the mouth nor the throat, and was not told the real state of the case, but prescribed a solution of morphia. She was perfectly well four or five days later, and returned to her parents. The wound was dressed with a solution of carbolic acid, later with basilic ointment, the physician wishing to keep it suppurating for three months at least.

This treatment, however, did not satisfy the parties, and the girl was sent to the hospital October 8th. She has never been seriously ill and there is no disposition to nervous diseases in her family; she is plethoric, of a very healthy appearance and of a lively character; she states that she is continually afraid of the breaking out of hydrophobia, and that during night, she often awakens in fear; upon admission she seems, however, to be quiet. The wound was red, granulating, and considerably decreased in size October 15th. Menses appeared October 10th, and were about ceasing the 16th (80 days after she had been bit); she was on that day as usual out of bed, had taken supper at 6 o'clock, and nobody had noticed anything extraordinary in her. At 7 o'clock, her temper was irritable, trying to calm her made her cry, as she stated herself later, without any reason; at 8 o'clock she suddenly had an attack of suffocation, when drinking water, which she could not swallow, but had to spit out. With short intervals she now had repeated attacks of convulsions, which roused the supposition of approaching hydrophobia.

Dr. O. saw her at 10:15 o'clock, and found her excited, anxious, crying, satisfied that she was suffering from hydrophobia and that she was going to die. She complains of pains in the upper part of the chest and front part of the neck, especially around larnyx and os hyoideum; in the throat she also feels

pain, but nothing abnormal is to be seen; the secretion of saliva is not increased, no Marochetti vesicles; the temperature is but slightly increased; she states that she feels pain in the wound now and then, extending towards the knee; the appearance of the wound is unchanged. The muscles, especially on the limbs, show slight spasms incessantly on the flexor-side of the forearm, so much so that the pulse cannot be counted. At the interval of 1 to 2 minutes, inspiratory spasms appear, accompanied by general clonic convulsions. They commence with some short, sighing sounds, produced by the entering of air thorough the narrow glottis. The chest rises and expands, the inspiratory muscles are very prominent, the whole body is shaken by clonic spasms, she beats furiously, or catches hold of the proffered hand; she has a sensation of suffocation and constriction of the throat, also pain in the limbs. Previous to the attack, she feels it coming by increased fear. When the attack is over, respiration becomes superficial and frequent, later more quiet.

In attempting to drink, spasms of the throat appear, and she swallows only a little with great difficulty, and a few seconds later she gets inspiratory spasms. The attacks increased in violence and frequency. At 10:45 o'clock an attempt to drink failed for the first time entirely in spite of her thirst. An injection of morphia (gr. ¼) had no effect, while inhalation of chloroform continued until narcotism gave great relief; the first inspiration produced, however, every time a spasm; she presented now the symptoms of hydrophobia very decidedly; she was, besides, much afraid of light, greatly alarmed, nearly out of her mind, the hearing extraordinarily sharp.

As there could no more be any doubt about the diagnosis, Dr. O. decided to make use of kurara. There was a solution of this drug at the hospital, 50 centigr. in 10 grammes of water (gr. 10 in ʒiij of water), the effect of which he had tried in frogs, and a year previous in two cases of tetanus; as these had both turned out fatal, Dr. O. felt himself justified in giving quite large doses. At 10 o'clock, about three hours after the sudden breaking out of the disease, he injected 2 centigr. (c. gr. ¼), and repeated the dose at 11 o'clock, when the muscular turbulence in the intervals commenced to decrease; he felt thereby encouraged to continue the hypodermic injections, administering 3 centigr. at the time, and became more and more convinced of the utility of the drug. At 1 o'clock the intervals were of 3 to 5 minutes' duration; the convulsions were, however, yet as violent as before. Finally, at 3:15 o'clock, when 18 centigrammes (c. 3 grains) of kurara had been given, an attack of much less force and shorter duration than any one previous was noticed. A little later, the patient stated that she felt paralyzed in all her limbs, and a very considerable paralysis was developed in the course of a minute. The attacks of spasms now became scarce and weak, and at 4:30 o'clock she had a last, very weak, attack—a spasmodic inspiration. After the last attack of

spasms, a complete suspension of the respiration had appeared, which, however, was easily brought on again by a few rythmical compressions of the chest and abdomen. As the spasms had ceased, the nearly complete paralysis continued, and impaired even the speech; respiration became weaker, though uninterrupted; the patient had difficulty in opening the eyes; to be touched was painful to her; she felt headache and weakness, but was not sleepy. Towards morning the skin became moist, and she was brought into perspiration through the agency of bottles filled with hot water.

October 17th, at 7:30 o'clock, A. M, the paralysis commenced to disappear; she swallowed a glass of water easily. In course of day the paralysis ceased entirely; the headache and the hyperæsthesia, especially in the arms, continued yet. Towards evening, some slight spasmodic contractions appeared in the arm and other muscles, and having taken a glass of water, a spasmodic inspiration took place in the same manner as the previous night. This repeated itself several times, but ceased without treatment, and at 9 o'clock she fell into a deep and quiet sleep. She awoke at 1 o'clock with a severe chill, which lasted three-quarter of an hour. She did not sleep any more, but there was no paralysis nor spasms during the rest of the night.

October 18th. On that morning a few spasmodic contractions appeared in the arm; the patient had headache and photophobia; at 11 o'clock she suddenly became totally parayzed, could not move a finger, hardly speak, but recognized visitors. In an hour the paralysis commenced to vanish and disappeared entirely in the course of the evening. Towards night, spasms appeared again, and, in attempting to drink, an inspiratory spasm; as those were repeated at intervals of 2 to 3 minutes, and the patient besides became restless, thirsty and shy of light, a hypodermatic injection of 3 centigr. of kurara was administered, which in 15 minutes displayed its effect. At midnight, she had another inspiratory spasm, followed by paralysis and superficial respiration as in the forenoon; towards morning she was quiet for several hours.

October 19th. Some headache and photophobia; a few spasmodic contractions; a few times slight spasm of the throat in attempting to drink, once followed by considerable paralysis.

October 20th. In the morning still some slight contractions. Since October 16th, she had taken only water and a little wine; in the evening, for the first time, she took some milk and bread with a good appetite.

December 3d. The wound in the foot is healed. She is dismissed from the hospital.

December 19th. She feels pretty well, but is yet very weak. She now continued improving slowly; she became anæmic; menstruation, which had appeared in November, now ceased for 6 months, and the inconsiderate talk of some of the patient's

surroundings, created fears that reappearance of the disease might take place.

In January, 1877, she informed Dr. O. that she had been well for many months.

This case hardly leaves any doubt as to the correctness of the diagnosis: lysa humana, as well as the curative effect of kurara in this case. The remedy is, however, looked upon with a certain distrust on account of the danger of the paralysis it produces, and because its composition and effect is so inconsistent that it is not easy to calculate the exact dose to be given, without exposing the life of the patient; the dose must, therefore, be established by experimenting. Kurarin would have a great advantage over kurara, but is at present very expensive. Used cautiously, and by observing the patient closely also, several days after its use, it is, however, hardly more dangerous than many other remedies, e. g. atropia. It is preferable to give it early in the disease, and the author concludes with the following propositions:

1st. Besides the surgical treatment of a wound inflicted by an animal suffering from hydrophobia, the patient must be kept under observation for several months. As soon as symptoms of threatening breaking out of spasms appear, the use of hypodermic injections of kurara is immediately resorted to.

2d. The physician in attendance must be prepared with a solution of kurara (50 centigr. to 10 grammes of water [gr. 10 to ʒiij.]), which should be tried on frogs, and 1-10 milligrammes (1-600 gr.) must paralyse these rapidly without producing any spasm.

3d. The quantity of kurara used for injection should correspond with the violence of the convulsions, and ought to be continued until positive symptoms of paralysis appear. As kurara may kill by paralysing the respiration, every thing needed for artificial respiration should be ready.

4th. When the spasms have apparently ceased, or in threatening paralysis, it is also necessary for some days to watch the eventual re-appearance of these symptoms.—*Uzeskrift für Læger.*

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## UTERO-OVARIAN AMPUTATIONS.

[Translation.]

In one of the last numbers of the *Indepondente* of Turin, we read a very long and detailed account of Dr. Joseph Berruti, of the case of utero-ovarian amputation, lately performed by him, of which we have already spoken in the July Number of our JOURNAL.

The woman has recovered. On the 25th day after the operation, she was able to leave bed, and a few days afterwards to attend to her household duties.

In order to correct some erroneous statements incurred in the compilation of the statistics of this operation, published in several medical journals, Prof. Berruti presents the follow-

ing table, as drawn from the reliable sources of the operators themselves, in which all the cases of this operation performed since 1876 to the present date (5th July, 1879,) are resumed:

| | | | | |
|---|---|---|---|---|
| 1 | 1876 | Prof. Torro, | Pavia, | Recovery. |
| 2 | 1877 | Prof. Spaeth, | Vienna, | Recovery. |
| 3 | 1877 | Prof. Hegar, | Friburg, | Death. |
| 4 | 1877 | Prof. Braun C., | Vienna, | Death. |
| 5 | 1877 | Prof. Spaeth, | Vienna, | Death. |
| 6 | 1877 | Prof. Chiara, | Milano, | Death. |
| 7 | 1877 | Prof. Tuzani, | Parma, | Death. |
| 8 | 1877 | Prof. Previtali, | Bergamo, | Death. |
| 9 | 1878 | Prof. Müller, | Berne, | Recovery. |
| 10 | 1878 | Prof. Franzolini, | Udine, | Death. |
| 11 | 1878 | Prof. Wasseige, | Liege, | Recovery. |
| 12 | 1878 | Prof. Chiara, | Milano, | Death. |
| 13 | 1878 | Prof. Tibone, | Turin, | Death. |
| 14 | 1878 | Prof. Braun C., | Vienna, | Recovery. |
| 15 | 1878 | Prof. Litzmaun, | Kiel, | Death. |
| 16 | 1878 | Prof. Wasseige, | Liege, | Death. |
| 17 | 1878 | Prof. Riedinger, | Brünn, | Recovery. |
| 18 | 1878 | Prof. Breisky, | Prague, | Recovery. |
| 19 | 1878 | Prof. Perolio, | Brescia, | Recovery. |
| 20 | 1878 | Prof. Chiara, | Milano, | Recovery. |
| 21 | 1878 | Prof. Fehling, | Stockard, | Death. |
| 22 | 1879 | Prof. Braun G., | Vienna, | Death. |
| 23 | 1879 | Prof. Tibone, | Turin, | Recovery. |
| 24 | 1879 | Prof. Coggi, | Cremona, | Death. |
| 25 | 1879 | Prof. Braun C., | Vienna, | Recovery. |
| 26 | 1879 | Prof. Tibone, | Turin, | Death. |
| 27 | 1879 | Lying-in-hospital, | Turin, | Death. |
| 28 | 1879 | Prof. Berruti, | Turin, | Recovery. |
| 29 | 1879 | Prof. Mangiagalli | Milano, | Recovery. |

Result—Recoveries.....13
Deaths.....16

Total.....29

If we consider, says Dr. Berruti, that the cases of Doctors Hegar, Tuzani, Previtali and Franzolini, Nos. 3, 7, 8 and 10, were operated on women in *articulo mortis*, we may conclude, that the cures surpass 50 per cent.

## CHAULMOOGRA OIL IN LEPROSY.

By WYNDHAM COTTLE, M.A., M.B. Oxon., F.R.C.S. Eng., etc. Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars.

The following cases are, I think, especially interesting on two grounds: that they illustrate the use of a comparatively little known remedy, and are a record of an early stage of elephantiasis Græcorum occurring in England.

Case I.—T. W. is now eighteen years of age. His father, an Englishman born in England, went to India. His mother was born in that country of English parents. He affirms that his parents and his three brothers, with whom he lives in London, are free from disease; and that there is no history of skin-affection in his family. Born in Calcutta, he resided and traveled in India until November, 1875, when with his family he moved to London, where he has since remained in comfortable circumstances. In England, he has always lived well; and he tells me that in India his food was much the same, with no excess of fish.

The first symptom of the disease showed itself in June, 1877, as a spot as large as a sixpence over the angle of the jaw on the left side, the site of which was marked by a dark stain. Previously to this, his health had been excellent. The development of this spot was followed by pains in the limbs that lasted about two months. He then noticed that the right forearm on its outer aspect had become marked with a brown discoloration. From August to October, 1877, small round tubercles, dark colored, about the size of split peas, with somewhat depressed centres, appeared on the backs of the hands. Similar tubercles showed themselves over the face; but in these the central depression was absent, and the color lighter. Conjunctival injection took place from the first attack. These symptoms persisted and increased. Tubercles of like character developed on the feet; and, in May, 1878, patches of brown staining, which at first were of a dull red color, swollen and hyperæmic, were visible on both arm and legs. The back of the right hand and portions of the right leg were also distinctly anæsthetic.

In October, 1878, his condition was as follows. He had tubercles, as described, on the face, the back of the hands and feet, and the inner surface of the lower lip, with one on the left conjunctiva. The limbs, especially on their outer aspects, were deeply pigmented, dry and scaly, most marked on the right side. The back of the right hand and outer surface of the right leg were anæsthetic. The finger points were also uniformly enlarged. There was no loss of hair, and the ears were unaffected.

At the end of March, 1879, all these symptoms had passed away, except a more limited and less pronounced anæsthesia in the above mentioned parts, and somewhat raised dark spots on the face and backs of the hands, corresponding to the positions occupied by the tubercles, with some thickening of the finger-joints.

From March 11th till September 18th, 1878, all the ordinary remedies were employed, but the disease steadily advanced; when I administered chaulmoogra oil in five-minim doses twice daily. The patient experiencing no inconvenience, I successively increased the dose to ten and twenty minims three times daily, then to forty and sixty minims thrice a day, which he is

now taking. The disease began to mend from the time the chaulmoogra oil was given, and very much more rapidly with the larger doses, the improvement being noticeable week by week during the last six weeks, while he has been taking the oil in drachm-doses. I also directed him to apply daily to the affected parts an ointment of twenty grains of chaulmoogra oil to an ounce of lard.

Case II.—T. M. was born and spent his youth in England. After residing twenty-seven years in Jamaica, he returned to London in November, 1877. He noticed the first symptoms of his disease in May, 1878, when large patches of discoloration appeared on his legs, followed by similar spots on the face and arms. A tonic treatment was first employed; and in September, 1878, chaulmoogra oil in small doses was given, which was increased to twenty minims three times daily. This he continued to take till March 10th, 1879, when I first saw him. He stated that his condition improved when he commenced to take the oil, but the complaint recurred in a more marked degree.

On March 10th, 1879, he presented the following appearance. He was hale and well nourished. There were dusky red raised patches, two or three inches in diameter, scattered over the face, neck, body, and limbs, with the characteristic leonine expression of countenance and thickening of the ears and of the tissues in the positions occupied by the spots. A superficial ulcer existed on the outside of the left leg, and one spot on the right thigh; and the insides of the feet from the great toes to the heels were anæsthetic.

I directed him to take chaulmoogra oil in drachm-doses thrice daily. The only inconvenience he experienced was slight constipation, which an occasional mild purgative removed. He has continued the same treatment. The ulcer on the leg rapidly healed. When I saw him a week ago, the spots had faded in color and lost some of their thickening, while some had disappeared; and the anæsthesia was less marked, and his general health had improved.

I cannot but regard these as encouraging results, and perhaps an indication of a more hopeful means of combating this intractable malady.

I have found that there are some points of clinical importance to be observed in the administration of chaulmoogra oil. It should be given at first in small doses of three or four minims, which, as the stomach becomes more tolerant of it, may be increased to a drachm. It should always be taken after food. It is apt to produce constipation and sickness. I have found this is best combatted by administering some mild purgative to ensure the regular action of the bowels, when the tendency to nausea generally disappears. In leprosy, at least, I am led to think that a much larger dose than that ordinarily given is required. I am in the habit of prescribing the oil as a mixture suspended in gum, or as an emulsion. It may be more elegantly administered in *perles* or capsules; and I have

had some made containing fifteen minims each, which I find useful and convenient.

Chaulmoogra is the oil expressed from the seeds of the *Gynocardia odorata*. Its melting point being high, it is semi-solid at the ordinary temperature. Its taste and odor are not disagreeable, and it comes to us with a high Indian reputation as a remedy for scrofula, skin-diseases, and leprosy. I am making trial of chaulmoogra oil in lupus and late forms of syphilis and, in cases where cod-liver oil is not well borne, I have found patients improve materially while taking it.—*British Medical Journal*, June 28.

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## KLEBS ON THE CONTAGIUM OF SYPHILIS.*

This is an experimental study of the inoculation of syphilis upon some of the lower animals. Certain patients were subjected to removal of Hunterian chancres by antiseptic means, and parts of each chancre were preserved in hermetically sealed tubes, and from these the inoculations were made, either directly or after cultivation. Under certain conditions syphilitic indurations are not infective, or, more probably, they have ceased to be so at the time of inoculation; and, inasmuch as these show the same histological elements as those which do infect, it is concluded that the cells are not the carriers of the virus, these being present in both cases. Klebs believes that the various stages of development of a fungus correspond with the various grades of infectiveness, and this is corroborated by another observation of his, that the extirpated masses were more active when they had been preserved for some days in glass tubes prior to their insertion.

The parts removed were all examined, both in the first state and after the usual hardening processes and staining. By the latter, appearances were observed in the morbid material which were suggestive of the presence of micrococci, but they were to some extent equivocal. Not so with the fresh specimens, in which organisms were indubitably recognizable as active mobile grains and short rods.

The first experiment was on this wise. On April 15, 1875, a Hunterian chancre was removed antiseptically and transferred to a glass tube heated to a red heat and closed by cotton-wool. During three days its surface showed no trace of putrefaction. The tube was opened on April 18th under salicylic acid spray, and pieces of the mass transferred to two cultivators. Within two or three days changes were observed in them, and, at the end of twenty-two days, microscopical investigation showed micrococci and rods. From this material a small black rabbit was inoculated in the anterior chamber of each eye. The inoculation excited considerable inflammation of the eyes, and rapid wasting, and death took place in nineteen days.

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* Archiv für Experiment Pathologie u. Pharmakologie, Band x.

The inspection did not show very much, but the left side of the liver contained a small circumscribed yellowish-white deposit, with gristly thickening of the neighboring serosa. The left cornea, also, showed morbid changes.

The second experiment was upon an ape. Three injections were made—one into the prepuce, another under the right nipple, the third under the left; all on July 8th. Nothing was noticed, except that an abscess formed at the seat of one of the punctures, till seven weeks after inoculation. By that time the animal was very ill, and a granulation tumor had formed in the gum of the upper jaw. It died on August 31st. The lung contained extensive tough yellow masses with cheesy centre, the peripheral parts of which were rich in spindle cell forms, and, therefore, unlike tubercle. Moreover, these changes were in direct communication with a caseous abscess under the left breast; one of the spots at which an injection had been made. Extensive changes were also found in the skull, in the shape of caseous deposits and bare bone. The deposits presented the same microscopical appearances as those in the lung; they were very vascular, and their softer parts contained rods in threads, in clusters, and groups which corresponded with those found in the cultivation apparatus.

The next series was not carried out till May, 1877. The material was afforded by a hard chancre removed by Professor Weiss half an hour previously. The surface of the ulcer showed a thick layer of micrococci, which exhibited lively movement in a mixture of glycerine water and common salt. Three rabbits and a dog were inoculated from the fresh chancre in the submucous tissue of the genitals. No noticeable changes resulted; neither induration nor ulceration. Two guinea pigs were inoculated by injection into the peritoneal cavity; and in these, as in former experiments, continuous wasting set in, and the animals died. No changes were found in the viscera, but actively moving bodies were found in the urine, pericardium, and bile of one animal.

Pieces of the same chancre were transferred to a cultivator, and, after twelve days, from the resulting growth of rods, grains, etc., a guinea pig was inoculated. On the following day, the part was somewhat swollen, and, within three days, the animal was dead. The organs were healthy, but in the blood were a few moving rods and micrococci.

Some of the material in another cultivator was left for a month, and, when examined, no longer contained rods, but only micrococci. With this, and with some material obtained by cultivation from the bile of the recently dead guinea pig, two parallel series of observations were made with guinea pigs, rabbits, dogs, and a goat. The inoculations were made on June 8th; on the 12th, the goat and one dog showed some swelling at the seat of puncture, and the dog some subsequent swelling of the inguinal glands, the inoculation being made on

the penis. But these early changes disappeared, and the experiments appeared to have failed. On July 5th, however, one of the rabbits died unexpectedly, and a quantity of fluid was found in the peritoneum containing micrococci; their being no trace of peritoneal inflammation. No other disease was found. On October 1st, a guinea pig died, and it also had ascites; the peritoneum being free from inflammation. This case is thought by Klebs to be similar possibly to a case recorded by Dr. E. Schütz (*Prag. Med. Woch.*, 1878) of a new-born syphilitic infant with ascites, the condition being associated with an extensive narrowing of the small arteries, but the arteries were not examined in these animals.

Of the two dogs, one died on August 22d; it had lost weight continuously. Some rather equivocal appearances in the cranial bones were found. The other being quite well some months after, it was devoted to other purposes. When it was examined, the spongy substance of the long bones in the whole extent of the epiphysis and part of the diaphysis was converted into compact tissue, and no trace of the epiphysial line remained. In the cranial bones eroded and carious patches were found.

A fourth series was conducted upon a pair of monkeys. The male was inoculated immediately from an extirpated chancre. The latter being removed, a small piece was deposited under the skin of the scrotum. The small wound healed at once, and no ill results followed. From the same chancre two pieces were taken and cultivated. The material became yellowish-grey and black, very offensive, and, on the sixth day, it contained a sporulating bacillus with active movements. The female was inoculated by subcutaneous injection. Suppuration occurred, and the part healed without any further ill result. The male was again inoculated from a fresh chancre, but only with a like result. The female was subsequently inoculated from another extirpated chancre. For six weeks it appeared quite well; then it began to shiver. The temperature rose to 104°, and an eruption appeared on its face. It died on May 17th, having been inoculated on December 29th. Characteristic changes were found in various parts, particularly in the lung, cranial bones, and kidney. In the lung there appears to have been a very characteristic gumma. The changes were distinguished from tubercle by being entirely interstitial, and by being composed of spindle-cells and other elements in a glassy-looking protoplasm. Similar appearances are found in the indurations of a fresh chancre.

By cultivation of the blood of this animal, masses of fungus were procured, consisting of spirally twisted masses of elongated rods, arranged in colonies and chains, to which the name Helicomonads is applied. The results of his observations Klebs sums up in the following three conclusions.

1. Syphilis in man can be communicated to animals by inoculating them with portions of the syphilitic new formations

But the course of the disease is not the same for each genus. With apes, the disease is quite the same as in man; rabbits have given other results which, if not striking, nevertheless will not allow any mistake as to their similarity with the disease in man.

2. In syphilitic new formations in man, certain low fungoid organisms are found, which develop into peculiar forms—Helicomonads.

3. By the transference of these to selected animals, changes are set going which correspond not only with those of genuine syphilis in man, but also with those of the inoculated syphilis of animals.—James F. Goodhart, M.D.—*London Medical Record*, July 15.

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## THE PROPOSED PHARMACY LAW AND PROPRIETARY MEDICINES.

Fr. Eberlein.

The Legislature of this State passed a law, about a year ago, for the suppression of charlatans and quack doctors. This law has been followed by good results, and if the Pharmacy law is passed, it will do about as much good in remedying the existing evil in the pharmacal branch of medicine.

But both laws are inadequate, in their present shape, to protect the public and the professions for which they are intended against another class of impostors. It is the case in all civilized countries; for as long as a charlatan or any other unscrupulous person is permitted to make and recommend as a "sure cure" for any disease known, or yet to be discovered, any kind of mixture invented by and known only to himself, which is legally protected by patents and trade marks, and is assiduously aided by a docile press, so long will neither the purse nor the life of men be out of danger.

There are now in the market a vast number of so-called patent medicines, which, by analysis, have been proven to contain poisonous ingredients, alike detrimental to man and beast, and which are bought and consumed by an ignorant public, deluded by mostly false statements, made in news and other papers.

Is it not, for instance, a well known fact that all the so-called "soothing syrups," intended for sucklings only, contain opium or its active principle? When the new-born babe makes use of its first and only sign of life furnished by nature to make known its pleasures and pains by crying, it is instantly drugged with a dose of soothing syrup; and who can tell how many poor little creatures are thus annually soothed to eternal rest, who otherwise might have become useful and happy citizens of this great "free" country?

If our State is ever blessed with a Pharmacy law, who shall examine all the boys and girls as to their competency to dispense soothing syrup, etc.? Whereby is any man forbidden to offer for sale under any high sounding title a mixture containing any quantity of strychnia, croton oil, etc., assuring the public that

they would feel the beneficial effects after taking the first dose.

The climax, however, in this kind of confidence game, is reached by a certain firm in B——, by its daring announcement in the German papers a few weeks ago. The readers were informed that they would certainly curtail their doctors' bills by taking their "unfailing health drops," and that their liniment was a certain cure for neuralgia in the most delicate lady or the worst case of colic in a horse or bull. "The Great German Remedy for Man and Beast," as is printed on the label, is a direct gift of a merciful God for all suffering beings.

In order to show the reader how well a humbug of this kind will pay its proprietors—the press being judiciously managed—I will give a few facts concerning this liniment, thinking that the same will prove interesting to many druggists who now only know the preparation by name or by sight. St. Jacob's oil is the name by which it is known and extensively advertised in all of our German publications. On the label is made the statement that this substance is distilled in Germany, from the leaves of the fir; that in fact it is fir leaf oil. Few druggists know that this an officinal preparation.* Mention of it, however, may be found in the U. S. D., under the heading "Fir Wool Oil," and in the N. D. (National Dispensatory), under *Fichtennadelol;* and in *New Remedies*, January, 1878, p. 9, may be found the following note: "The Pharmacopœia of the Throat Hospital, London, contains, among the list of materia medica, oleum Pini Sylvestris. From this it may be seen that the oil of the Pinus Sylvestris† is a well known remedy in England as well as Germany." Being acquainted with the article, I imported some *pro bono publico*, and of course in the interest of my business, the first consignment reaching me about eight years ago. Upon its arrival I advertised the fact in the papers, and soon disposed of my stock to people who had employed the oil while visiting the old country. Since then I have frequently replenished my stock.

Not very long ago I noticed that a firm in Baltimore was advertising the same article under the name of "St. Jacob's oil," (said to be a popular name in some parts of Germany,) but was not a little surprised upon discovering that the bottle they sold for fifty cents contained at least four times as much as I could possibly sell for an equal sum. Subsequently I opened one of these bottles, and found it to contain a brownish colored liquid possessing the odor of camphor, oil of turpentine and ether, while a closer examination revealed the presence of alcohol. The conviction dawned upon my mind that such a concoction might be readily sold at $3 per dozen, and still yield a handsome profit to the manufacturer; making a pint of the mixture of the ingredients first mentioned, and adding this to one gallon of the oil of turpentine at thirty cents, would make for eighty

* Oleum Terebinthinæ,—EDITOR.

† Scotch Fir.—EDITOR.

cents sufficient to fill three dozen bottles—the main expense being labels, circulars, wrappers, bottles, and Uncle Sam's two cents' worth of interest in the patent humbug—altogether making a cost of about $2 or $2 50 for three dozen, say 75 cents a dozen, for which they receive about $3 per dozen by the gross, and the *arcanum*, almost dirt cheap, is ready. But to place it where it would do the most good consumes vast sums of money; but for money the press will willingly open its columns to the greatest charlatan, even when convinced that the article is an unmitigated humbug. Newspapers are institutions created for the purpose of making money; nevertheless they obtain a certain influence over their readers, and as it costs more to run a newspaper than the editor gets from his subscribers, they use their influence in preying upon the credulity of the readers. They offer their columns to speculative merchants, charging sometimes as high as a dollar a line, and then without inquiring into the virtue of the article to be advertised. This point is being well appreciated by compounders of patent medicines, who, to a great extent, support the daily press.

It is really a novel species of confidence game, for, through all manner of promises and representations, the people are deluded into investing a certain amount, for which they expect to receive an equivalent with which to restore their lost health, frequently, however, without obtaining that which has been promised by the announcements. Probably the reader is expected to consider this investment as part payment for his newspaper, which he received too cheap in the first place, for stockholders must make a living.

In order to give a superficial idea how plentiful the return is from the seed of humbug sown on the acre of popular ignorance, I will state some of the results of my investigations with the St. Jacob's oil business: Here in Cgicago our wholesale druggists handle from 1500 to 2000 gross per annum, for which they pay the manufacturers from $50,000 to $60,000; advertising in the German papers of Chicago and vicinity possiby amounts to $6000 to $12,000 a year; the cost of preparing the stuff—$9 a gross—is equal to about $13,000 to $18,000. All expeneses combined possibly amount to $20,000 or $30,000, against $50,000 to $60,000 receipts; from which it will be seen that Chicago alone affords the small, but honest (?), margin of $30,000 a year.

The moral to be derived seems to be plainly this: Instead of working hard as a physician or pharmacist for the benefit of mankind, barely eking out a decent livelihood, it would be rather more practical to cure the people by means of St. Jacob's oil, or something similar, thereby securing one's self an independent place in society, as is the case with the Baltimore firm.

Such an idea, however, is repugnant to all respectable professional men, and, as a consequence, we must content ourselves

by trying to promote our own interests and those of the public by arresting the patent medicine humbug now raging in this country. I am of the opinion that Germany's laws would serve us a good purpose. There they have no secret medicines, because it is forbidden to make any.

One of the members of the Bancroft-Davis embassy told me that during the time our Government was inquiring through them, "how many patent medicines exist and how large are the sales of the same in Germany?" the German Government answered in a very polite manner that Germany was a civilized country, where no such preparations were allowed. Now, we, also citizens of a civilized country, should unite and have a similar law passed, which would create for us a healthier business and at the same time protect the people.—*The Pharmacist and Chemist*, June.

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## NOTES ON INTRA-UTERINE MEDICATION.

By G. Granville Bantock, M.D., F.R.C.S., Edinburgh.
Senior Surgeon to the Samaritan Free Hospital for Women and Children.

The discussion which has been going on in the *Obstetrical Journal*, on this subject, is one of very great importance, and it is high time that the results of, at least, one of the methods employed should see the light. Ever since the practice of applying fuming nitric acid was advocated for the treatment of chronic uterine catarrh, I have looked forward, in confident anticipation, to the time when we should hear of the dire consequences of such heroic treatment. Now my expectations are realized. Holding these views, it will not be expected that I can afford any direct evidence, for I have never employed the pure acid, and it will be readily understood with what horror and amazement I have listened to gentlemen declaring that they had used it in *hundreds* of cases.

Now I, for one, cannot but regret that a method of treatment—viz., intra-uterine medication—which yields such satisfactory results, when judiciously employed, should be thus brought into discredit; for I can fully confirm the statements of Drs. Playfair and Sloan on this subject, seeing that I am almost daily witnessing the beneficial results of this treatment.

When I first began the study of the diseases of women, about fifteen years ago, I was in the habit of employing the nitrate of silver, according to the method then practiced—viz., by passing the solid stick as far up the cervix as possible; but I soon found that this was a clumsy and inefficient method, and often produced a greater local effect than was desirable, more of the agent being used than was necessary. This led me to employ the mild, hard, and less soluble caustic points used by oculists. But this did not satisfy me, and I had recourse to a more accurate mode. I fused the solid nitrate in a

platinum crucible,* and then dipped into it a platinum probe, two inches and a half long, and of the size of a No. 1 catheter. By repeated dippings I got as much as I thought necessary, and I was thus able to apply the agent to the whole length of the cervical canal, and, if necessary, to the uterine cavity, as high as the fundus. In this way I could make sure, not only of the amount of the nitrate used, but also of the extent to which it was applied, and I obtained excellent results.

This did not, however, prevent me from experimenting largely. For this purpose I had a wide field in the out-patient department of the Samaritan Free Hospital, where I had several thousand of patients pass under my hands—in one year as many as a thousand. I experimented with other agents, such as carbolic acid, iodine liniment, sulphate of zinc, styptic colloid, and a solution of sixty grains of nitrate of silver in half an ounce each of nitric acid and distilled water; but I could not bring myself to try the nitric acid alone. I found the zinc and colloid of little or no value, and the solution I reserved for special cases, which came "few and far between."

The result of this experimentation is the practice I now adopt, which is as follows:

When the secretion of mucus or muco-pus, is very excessive—and in some cases as much as a small teaspoonful can be obtained from the vagina and cervical canal—and, as is usually the case, the cervical canal is very large, the calibre generally corresponding with the amount of discharge. I first apply the above solution, a few days after a menstrual period. At the end of a week the visible effects have passed off and the discharge is thiner and less abundant, and I then apply the carbolic acid (nineteen of the crystals to one of water), repeating it at intervals of a week, except when interrupted by a period, and taken care not to apply it within a week of an approaching one, until a cure is effected. In milder cases I employ the nitrate of silver first, and if, after a time, the carbolic acid appears insufficient, and in the convalescent stage of the more severe cases, I have recourse to it again, but only just after a period. In the earlier years of my practice I observed rather more contraction of the os and cervical canal than I considered desirable, after using the solid nitrate, and in one very severe, long-standing and obstinate case, in which I applied my solution three or four times, but in no case to an inconvenient extent. In a few cases I still find the nitrate of silver alone sufficient, in one or two applications, but for the most part I use the carbolic acid. But I cannot say that I have obtained the wonderful results we ought to expect if Dr. Playfair be correct when he says, "practically I find that two applications, at an interval of three or four days from each other . . . . are all that is required." I cannot imagine

* The platinum crucible and aluminium probe can be obtained of Messrs. Krohne and Sesemann, 8, Duke Street, Manchester Square.

that Dr. Playfair has in view the severe cases to which I refer, nor have I found any advantage from the more frequent applications—viz., at intervals of three or four days instead of six or seven.

But there is another method of treatment which has yielded still better results in my hands. This consists in the dilatation of the cervical canal by means of a sponge tent, as the first step.* The tent must be left in for twenty-four hours. By this time, what with the compression of the swollen mucous membrane, and what with the removal of exuberant granulations to which the sponge adapts itself, and which are torn off as the sponge is withdrawn, a clean surface is obtained. A strip of lint, saturated with glycerine containing iodine liniment, in proportions varying with the circumstances of the case, is substituted for the sponge. The lint is to be renewed daily for ten or fourteen days. The iodine, however, is not to be used every day, and its subsequent applications, which should not be oftener than every third day, should be in more diluted form. At the end of the period above named the case will probably be well. Anyhow the treatment must be stopped two or three days before and during the next menstrual period. If after this anything more should be required the carbolic acid will be found the appropriate agent, and probably the "two applications" of which Dr. Playfair speaks will be all that is required. In this way cases may be cured in one or two months, instead of three to six months, or even more.

The cases in which this treatment can be employed are few and far between, as it requires that the patient should be within easy reach. Nor is it always easy to persuade a patient, who perhaps only complains of "such a discharge" with a little backache or bearing-down, or other indefinable and varying symptoms, to submit to enforced rest in bed for a fortnight.

The principle of the treatment is the very obvious and common-sense one, daily acted upon by surgeons in the treatment of indolent granulating wounds—viz., first the destruction of exuberant granulations, and then daily dressing. A surgeon would not dream of treating, on the surface of the body, a state of things such as the mucous membrane of a uterus affected with chronic catarrh, presents to the gynæcologist, by applying something to it once a week, or even at a shorter interval of three or four days, and leaving it in the interval to take its chance. Why should not the gynæcologist do likewise? But in practice it is more difficult; and in this the gynæcologist is at a disadvantage.

One great advantage of this method is this—viz., that we need not fear subsequent contraction of the canal; and when

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* Sponge tents should not be covered with grease, except at the tip, and should be prepared without gum, as they have been for some time made by Krohne and Seseman according to my instructions. It is well to charge the tent afresh with two or three drops of the strong liquid carbolic acid or iodine liniment, by means of a large vaccine tube, before using.

the condition is a sequence of a bad "getting about" after a confinement, with subinvolution of the organ, we kill two birds with one stone—we cure the unhealthy condition of the mucous membrane and the subinvolution at the same time.

A word or two about the mode of applying liquids to the interior of the uterus. When a probe covered with cotton-wool is dipped into a liquid it is apt to take up more than is required. The consequence is, that as the probe is pushed up into the uterus the excess is squeezed out and runs over the cervix into the vagina, where it is not required. The ordinary (so-called) medicated wool is very inconvenient, because its capillary properties are interfered with by the presence of oily matter used in its preparation. Von Brun's preparation, which is free from oil, is much to be preferred, and the quantity of liquid can be better regulated.

Dr. Playfair recommends a probe with a bulbous point. This is a mistake; or, at least, an inconvenience. Long before the publication of his lecture on this subject I had been in the habit of using a pointed (not too sharp) instrument. This form is much more convenient. I have never known the cotton-wool come off. The probe—aluminium is undoubtedly the most convenient metal—must be wrapped with the wool for two-thirds of its length, or more, and it should not be straight, but very slightly curved. Nor is it at all necessary to roughen it, as Dr. Sloan recommends. I always remove the wool with the ordinary gynæcological forceps, and my difficulty is to prevent the metal getting too rough from contact with the toothed surfaces of the forceps. The trouble of getting the wool off a bulbous-pointed probe is very irritating. It is all very well in the wards of a hospital where you have a nurse to do this for you, but it is an intolerable nuisance in private practice.

It is not within the scope of these notes to enter upon a discussion of the other conditions requiring intra-uterine medication. I have limited myself to the question of the treatment of chronic catarrh as the most frequent, and, in the experience of some, one of the most obstinate affections coming under the notice of the gynæcologist, and I trust the result of this discussion will be that we shall hear less of the *hundreds* of cases in which the heroic treatment by fuming nitric acid is employed, and that intra-uterine medication will be established on a safe and scientific basis.—*Obstetrical Journal, May*, 1879.

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## COMPARATIVE DANGER OF FIRST LABORS.

Dr. J. G. Swayne has recently read before a branch of the British Medical Association a valuable paper*, in which he en-

*Obstetrical Journal of Great Britain, May, 1879.

deavors to answer the question whether first labors are more dangerous than others. His opinions are based upon a careful examination of ten hundred and twenty-two cases which have occurred in his own private practice. Of these two hundred and thirty-one were primiparæ, and seven hundred and ninety-one multiparæ. No mother died among the former, while five of the multiparæ were lost. The causes of death were as follows: In one it was heart disease, which existed previous to the labor, which became worse after delivery, and terminated fatally on the twenty-seventh day; in another it was puerperal scarlatina, proving fatal on the fifth day; in another ruptured uterus; in another pneumonia, commencing two days before labor, and ending in death six days afterwards; and in the fifth convulsions, which proved fatal a few hours after delivery. Thus the proportion of maternal deaths in the multiparæ was about one in one hundred and fifty-eight, whilst in the primiparæ there was no death in two hundred and thirty-one cases, a difference greatly to the advantage of first labors.

As regards the children, however, the difference was slightly the other way: in the two hundred and thirty-one first labors the deaths of eighteen infants are recorded, or about 7.8 per cent., whilst in the seven hundred and ninety-one multiparæ forty-seven infants died, or about 5.9 per cent.

A careful examination of the cases in detail show some interesting facts which characterize first from other labors. In primiparæ, owing to a prolonged first stage, the uterus is more exhausted, and forceps are more frequently demanded. Thus in two hundred and thirty-one primiparæ Dr. Swayne used forceps fifty-two times, or nearly one in four, whilst in the seven hundred and ninety-one multiparæ they were employed only twenty-five times, or nearly one in thirty-one. Hence come a larger number of deaths of infants from the pressure during prolonged labor. In first labors the rigidity of the soft parts of the mother gives rise to an increased danger in cases of presentations of the inferior extremities. In the two hundred and thirty-one primiparæ there were six breech presentations, in four of which the child was still-born, whereas in the seven hundred and ninety-one multiparæ there were fourteen such cases, and only two children lost. Among the multiparæ the greatest cause of infant mortality was premature birth, from which cause there were eighteen deaths; among the primiparæ there were only three. Post-partum hæmorrhage occurred about equally in both classes, but the amount of blood lost was far greater in the multiparæ. There were eleven cases of twins among the multiparæ, and only one among the primiparæ. There is unquestionably much greater suffering among primiparæ than among multiparæ; on the other hand, the former are, as a rule, younger and in better health and stronger. Rupture of the uterus occurs much more frequently among the multiparæ. Dr. Swayne closes his paper with the conclusion that

first labors are less dangerous than others to the mother, but slightly more so to the infant.—*Boston Medical and Surgical Journal*, July 3.

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## IODIDE AND BROMIDE OF POTASSIUM IN ALBUMINURIA.

By J. W. Compton, M.D., of Evansville, Ind.

Many good remedies may have a much wider range of therapeutic usefulness than is usually accorded them. The iodide of potassium has, for the past ten years, in my hands, exhibited well-marked good effects in the treatment of albuminous nephritis.

In 1869, E. S., age thirty-five, presented himself to me for treatment for a chronic renal trouble. At this time he exhibited well-marked œdema; much swelling from effusion in the cellular tissues, particularly of the lower limbs and face. Obtaining some of his urine, and submitting it to the usual tests of heat and nitric acid, it became almost solid albumen, and having but slight hope of anything more than mere temporary relief from the ordinary course of diuretics recommended in such cases, and having my attention about this time called to the successful treatment of Bright's disease by iodide of potassium, I determined to try this old remedy in a new role.

The patient was directed to take, in solution, ten grains iodide of potassium four times per day, and to increase this dose daily, up to the largest amount tolerated by the stomach and mucous membranes. The patient proved to be a good subject for the free administration of the remedy. The quantity taken per day was gradually increased, until it reached the unusual amount of three drachms daily, and before he ceased taking the remedy he informs me that the renewals of the prescription had cost him over one hundred dollars. These large doses brought out, to almost a troublesome extent, the characteristic red eruption on the skin, particularly on the lower extremities. At this stage I had the pleasure of seeing the dropsical effusion disappear, and the patient restored to perfect health. He is an active business man to-day, and his recovery can, with much certainty, be traced to the remedy in question, as he took no other medicine during the time. For the first year or two he had occasional returns of swellings of the extremities, which were in a short time relieved by resorting again to the remedy.

More recently there appeared under my observation similar good results from the administration of bromide of potassium in albuminous urine. Bromide of potassium possesses alterative and resolvent properties similar to those of the iodide, and in many forms of disease complicated with albuminuria will be found preferable to its congener. In addition to its acknowledged strong eliminative powers, it possesses physiological properties similar to those of other potassium salts; yet its

action on the nervous system and upon the circulation are so far diverse as to give to it some entirely different therapeutic properties. Its quieting control over cerebral excitement, and under certain forms of nervous excitement constituting unrest and other forms of nervous derangement, often render it a valuable substitute for the iodide. These various forms of nervous conditions are familiar to the profession, need not be repeated here, and not wishing to occupy space unnecessarily, I deem it quite sufficient to call the attention of practitioners of medicine to the therapeutic indicati ns of two valuable agents in the treatment of a disease in which I am led to believe these remedies are not generally administered, and which so frequently baffles our best efforts as to make it desirable for us to have access to all therapeutic agents that promise permanent benefit.—*Medical and Surgical Reporter*, July 26.

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## TREATMENT OF OBSTINATE VOMITING BY SMALL DOSES OF IODIDE OF POTASSIUM.

By GEORGE HUNTINGTON, M.D.

Having noticed in the *Record* of March 15th, under the above heading, an article taken from a statement made by Dr. Formica Corsi in the "Gazette Obstetricale," and having a patient suffering from obstinate and intractable vomiting arising from spinal inflammation, and having exhausted all the remedies ordinarily employed as anti-emetics, without the least amelioration in the symptoms, I determined to try the iodide in the minute doses recommended by Dr. Corsi. The vomiting had occurred immediately after taking food of any description, quantity and quality making no apparent difference. Vomiting occurred with very little effort, nausea persisting for only a short time after the contents of the stomach had been entirely rejected.

This state of things had existed for at least two months, in which time she had retained only an occasional mouthful of food.

After the use of injections of beef-tea and egg for several days, during which time nothing but a little drink was allowed by the stomach, one or two meals were retained, but the vomiting commenced again, and continued up to the time of the administration of the iodide. I gave it in solution, in doses of 1-36 grain, repeated every hour and a half: and since then—now fourteen days—she has retained everything she has taken, excepting one or two meals, when she had omitted the drug for a few doses, at my request, as a test. - *The Medical Record.*

# EDITORIAL.

When "old Salt River" Snyder came to die, he admonished his sons never to become "too intimate" with the bottle. However erroneous the rhetoric, the moral designed to be conveyed is not a subject for just criticism. Perhaps a paraphrase of the advice, making it applicable to the medical profession, may be pardonable, even if the bad language is literally quoted. The un-dictionary, but yet phonetic spelling of Josh Billings gives point and endurance to his quaint witticisms.

Suppose, now, we make the venerable Snyder's dying charge apply with especial pertinency to the medical profession, by substituting for "bottle"—newspaper reporters.

No one can deny that intimacy with that craft is a growing evil in the profession in our section of the Union.

A surgeon has an operation to perform: the editors of his pet Daily hear of it, and one of its reporters is sent to witness it, even though it may be upon a respectable female and for ovarian tumor, or lacerated perineum—decency is outraged and feminine delicacy overridden, in order that the reporter may give a "good notice," that is a sensational notice, which is to benefit the operator.

In all this the newspaper people consider themselves the benefactors, and naturally enough, because the newspaper accounts of the operations are generally flaring puffs of the operators. It is, therefore, natural again, that the papers conferring these supposed benefits should demand something in the shape of a return. It then occurs that as often as a medical question puzzles the editorial corps, a reporter is dispatched and their pet Medicus is solicited to furnish a solution. This he generally holds himself competent to do. Is he not a man who possesses enough of the fat of wisdom to lard all the lean hills of science in his community? If he is not, his pet newspaper has lied, for it has put him forth as precisely such a phenomenon. He can give certificates which clearly define the

diseases people have died of, into whose sick rooms he was never permitted to enter. He knows all the unraveled mysteries of those destroyers of mankind which devastate nations in the darkness of night or in the broad glare of noontide.

The saddest result from this state of things in New Orleans is that one of the daily papers contains from day to day bulletins of cases of sickness in private families, citing the names and residences of the sick, and embellished by such gossip as the reporter may choose to add. The family circle has no privacy and grief no sacred retreat which these unfeeling and indelicate wretches do not seek to lay bare to the public in the columns of a political newspaper, sometimes with their pet doctors to aid them.

If the delicate and altogether sacred relations which should subsist between physician and patient are worthy of being preserved, then must the whole honorable mass of the profession as one man, move breast to breast in breaking down these despicable alliances between certain practitioners of medicine and newspaper reporters, and in expressing in unmistakable terms their condemnation of all newspapers so ignoble and insensible to right as to attempt such practices.

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"Absorbing Cotton" prepared by Messrs. Hance Brothers & White, Philadelphia.

While it is very difficult to make ordinary cotton absorb any not-alcoholic liquid, on accou .t of the oil, which cotton in its natural condition contains, this "absorbing cotton" is readily saturated with any fluid, almost as easy as a sponge. It is excellent for dressing purposes, whether it be from the surface of the body or from any of the natural cavities—vagina, ear, etc.—that secretion has to be removed. On account of its absorbing quality, it is equally available in the application of external remedies, for instance, perchloride of iron in hæmorrhages.

# Reviews and Book Notices.

*The Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries.* By D. Hayes Agnew, M.D., L.L.D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely illustrated. Vol. I, imp. 8 vo., pp. 1062. Philadelphia: J. B. Lippencott & Co.; New Orleans: Eyrich's Book Store, 131 Canal street.

The surgical magnates of America are rivals of their English confreres, and the work before us will undoubtedly take its place high in the estimation of the profession.

The handsome volume under consideration, from the beginning to the close, bears evidence of great experience and careful study. The introductory chapter is one of the most elaborate treatises on methods of examination we have ever read.

Chapter I takes up the study of inflammation, and the investigation of the nature, cause, history, and results of this process is essentially modern, and the treatment of the subject complete.

Chapter II is devoted to wounds, their nature and variety, including those caused by specific infection, and their treatment is carefully considered. We wonder that when the author dwells on the subject of hemorrhage the apparatus of Esmarch found no place in the catalogue of tourniquettes.

Chapters III, IV and V are exceedingly interesting and treat of injuries of the head, chest and extremities.

Chapter VI relates to diseases of the abdomen.

Chapter VII treats of diseases and injuries of the blood-vessels.

Chapter VIII is a practical treatise on the ligation of arteries.

Chapter IX is an explanation of the various surgical dressings.

Chapter X is highly satisfactory, and is devoted to the study of injuries and diseases of the osseous system. The statistical

information contained in it is valuable but too extensive to interest the general practitioner.

We look forward to the second volume with much pleasure.

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*Epitome of Skin Diseases*, with formulæ, for Students and Practitioners. By Tilbury Fox, M.D., F.R.C.P., Physician to the Department for Skin Diseases in University College Hospital, etc., and T. C. Fox, B.A. (Cantab), Physician to St. George's and St. James's Dispensary. Second American Edition, enlarged and revised by the authors. Philadelphia: Henry C. Lea. New Orleans: Armand Hawkins, 196½ Canal street. pp. 216.

The name of the lamented Tilbury Fox will long live in the medical profession as one of the most devoted workers in his specialty, and his systematic studies in skin diseases have won for him golden opinions on both sides of the Atlantic.

The work now under consideration is the combined labor of himself and Doctor T. C. Fox, and, as expressed by its title, gives within its pages those essential details requisite to the study of the subject.

The work is divided into three parts.

Part I treats of general observations on skin diseases.

Part II the description and treatment of skin diseases, and Part III contains the cutaneous pharmacopœia.

Part II of the work is especially planned so as to be easy for reference. The diseases are taken up alphabetically, and the formulæ and observations on diet in the third part of the work are practical and thorough.

The work is printed on good paper with clear type, and is cordially recommended.

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*An Atlas of Human Anatomy*, Illustrating most of the ordinary Dissections and many not usually practiced by the Student, accompanied by an Explanatory Text. By Rickman John Godlee, M.S.F.R., C.S., Fellow of University College—Part I. Philadelphia: Lindsay & Blakiston. New Orleans; Armand Hawkins, 196½ Canal street. Price, $2 50.

The purpose of this excellent atlas is fully explained by its

title. The first part contains four artistically executed plates, illustrating the superficial and deep dissections of the neck. Muscles, arteries, veins and nerves are displayed with remarkable distinctness. Other parts of this atlas will soon appear, and afford the student an opportunity of learning anatomy practically and agreeably.

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*Diseases of the Intestines and Peritoneum.* By John Syer Bristowe, M.D., J. R. Wardell, M.D., S. O. Habershon, M.D., J. W. Begbee, M.D., T. B. Curling, F.R.S., and W. H. Ransom, M.D. "Woods' Library of Standard Medical Authors." Wm. Wood & Co., New York. New Orleans; Armand Hawkins.

The enterprising publishers are determined to let merit be the claim to positions in this valuable "Library," and in the present volume have won new laurels. The work before us is the combined effort of five distinguished authors, and while of necessity, compressed in small compass, contains an admirable study of the following diseases:

Enteralgia, Enteritis, Obstruction of the Bowels, Ulceration of the Bowels, Cancerous and other Growths of the Intestines. Diseases of the Cæcum, Colic Colitis, Diarrhœa Dysentery. Disease of the Duodenum. Diseases of Rectum and Anus. Intestinal Worms, Peritonitis, Tubercle of the Peritoneum, Carcinoma of the Peritoneum, Affections of the Abdominal Lymphatic Glands, Ascites and Abdominal Tumors. Surely a goodly array of most interesting subjects. The work cannot fail to find its way to the medical library, and, as a work of reference, is practical and convenient.

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*The Pathological Anatomy of the Ear.* By Herman Schwartze, M.D., Professor in the University of Halle. Translated by J. Orne Green, A.M., M.D. Boston: Houghton, Osgood & Co., The Riverside Press, Cambridge, 1878.

This is a work the want of which has been much felt, since it brings together for the student of otology in a small space material which otherwise had to be sought for scattered, and unarranged throughout the literature of the subject.

The name of the author is a sufficient guarantee that the work has been carefully performed, and that it will take a prominent place in the literature of the diseases of the ear.

The careful citation of authorities is one of the best features of the work with reference to its practical usefulness.

While it abounds in facts for which we must in part, at least, give credit to the author; yet the nature of the work renders it impossible that it should be other than largely a compilation, for no part of the human body demands for its study more labor and time than does the ear, on account of its anatomical position and surgical relations.

This work shows what wonderful progress has been made in the science of otology in the last fifteen or twenty years, and the number of distinguished workers in this specialty.

Before Toynbee's great works appeared, it could be truly said that there was no true science of otology. To-day, however, there are numerous professorships devoted to this specialty throughout the civilized world.

To Toynbee we in a great measure owe this revolution which took this important department out of the hands of charlatans and placed it upon an anatomical basis, thus laying the foundation of modern otology.

Since that time the German school (and in this probably that of Vienna) has done the most to advance the science so well founded by the illustrious Englishman.

Otherwise the translation published in Boston does great credit to the translators and the publishers, and shows the great progress made in this species of work in America within a comparatively short period. B. A. P.

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*The Laws of Therapeutics or the Science and Art of Medicine.* By Joseph Kidd, M.D.; Published by Lindsay & Blakiston, of Philadelphia. New Orleans: Armand Hawkins, 196½ Canal street.

In this little volume of 196 pages, the author presents a history of medicine from the fourteenth century (B. C.) noting the origin and development of the various theories and schools which existed for a time, and, in turn, give place to new systems.

In Egypt, about the eleventh century B. C., there was a college of physicians who belonged to the sacerdotal class, and women as well as men practiced medicine. In fact medicine had attained so high a degree of perfection in Egypt that there were specialists in the different branches of the art.

The Babylonians and Assyrians alone among the great nations of antiquity had no physicians.

Hippocrates, born 460 years B. C., was for 23 centuries without a rival. The first well-marked schism in medicine occurred about 250 years B. C., and arose, according to the author, from the mistake made by Hippocrates in leaving the region of pure observation for that of speculation—hence the origin of the sect known as Empirics. These were followed by the Dogmatists, and these latter by the Eclectics, who professed to select the good, and avoided the evil of all the other systems. According to the author, of all the sects those known as Eclectics were the worst. "Eclecticism in medicine, like the mule in creation, is essentially barren."

For six centuries—that is, from the time of Hippocrates to the time of Galen, all is vague and contradictory in Therapeutics. Galen was born in Pegamas, in A. D. 131. While Hippocrates founded his treatment on his own opinion of the nature of disease, Galen founded his system on his idea of the nature of medicine. Haller, in the eighteenth century, was the first to teach that the true guide to the treatment of disease must be sought for in the accurate knowledge of the action of medicinal agents in the human body. From this the system of Homœopathy became gradually evolved, and so on are we able to trace the origin of the various theories and schools to the present.

The work is exceedingly interesting and instructive as well as valuable, on account of the thorough investigation into the merits of the different theories—the study of the natural history of disease, the art of medicine, and a well-written article on "the obstacles to the action of medicines." The suggestions and views of the author as expressed are plausible, practical and calculated to lead to a more correct comprehension of the laws on which the science of Therapeutics is based.

J. M. W.

*Manual of the Principles and Practice of Operative Surgery.* By Stephen Smith, A.M., M.D., Surgeon to Bellevue and St. Vincent Hospitals, New York. 12mo., pp. 689. Boston: Houghton, Osgood & Co., 1879.

This work is an enlargement of a hand-book of Su gical Operations, prepared by the same author in 1862, with special reference to military practice, and includes the general operations in surgery, with the exception of those pertaining to the special senses. The book consists of sixty chapters, classified under eleven general heads, as follows: I, The Principles; II, The Osseous System; III, The Muscular System; IV, The Circulatory System; V, The Nervous System; VI, The Tegumentary System; VII, The Digestive Organs; VIII, The Respiratory Organs; IX, The Urinary Organs; X, The Generative Organs; XI, The Extremities.

The scope of this manual is immense, and it is rather to be regretted that Dr. Smith should have attempted to include so much matter in so little space. What he says is almost invariably correct and excellently expressed; but on many important subjects and operations his extreme brevity is unsatisfactory, his terseness of expression leaving matters sometimes obscure. It is certainly to be hoped that another edition will be prepared, of octavo size and not less than 1000 pages. This will give room for some amplitude of explanation and greater variety in methods of operation.

The book is abundantly illustrated with wood cuts, is supplied with an index, and its mechanical execution is altogether excellent. S. S. H.

## Books and Pamphlets Received.

*Announcement Memphis Hospital, Medical College and Medical Department of Southwestern University, Session of* 1879-80.

*The Radical Cure of Hernia By the Antiseptic Use of the Carbolized Catgut Ligature.* By Henry O. Marcy, A.M., M.D., Cambridge, Mass., Member of the Massachusetts Medical So-

ciety, American Medical Association, etc., etc. Reprint from Transactions of the American Medical Association, 1878.

*An Account of the Perineosinuexereeinator—A New Instrument for the Exploration of Sinuses. Especially Adapted to Gynæcological Practice.* By Jacques Robinson, A.M., M.D., Surgeon to the Hospital for Ruptured Vesicles, Member of the Anteversion Society and the Round Ligament Club, etc., etc. Reprint from Louisville Medical News, May 13 and June 7, 1879.

*The Pith of the Dried Cornstalk as a Uterine Tent, and General Remarks Upon the use of Uterine Tents in Gynæcological Practice with Cases.* By W. T. Goldsmith, M.D., Atlanta. Reprint from the Transactions of the Medical Association of Georgia.

*A Conspectus of the Different Forms of Phthisis, Intended as an Aid to Differential Diagnosis.* By Roswell Park, A.M., M.D., Demonstrator of Anatomy, Woman's Medical College, Surgeon to the South-Side Dispensary. Reprint from Chicago Medical Journal and Examiner, September, 1878.

*McGill University, Montreal, Canada, Forty-seventh Annual Announcement of the Faculty of Medicine, Session of* 1879-80.

*A Series of American Clinical Lectures. Edited by E. C. Seguin M.D., Vol. III, No. IX. Operation for Closure of Cleft of the Hard and Soft Palate.* By A. Vanderveer, M.D., Professor of the Principles and Practice of Surgery, Albany Medical College; Attending Surgeon at the Albany Hospital and St. Peters Hospital.

*University of the City of New York, Medical Department. Annual Announcement of Lectures and Catalogue, Session* 1879-80.

*The Casual Lesions of Puerperal Convulsions. A Paper Read Before the Pathological Society of Philadelphia, April* 28, 1878. By James Tyson, M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania; One of the Physicians to the Philadelphia Hospital, etc.

*Case of Sarcoma of the Kidneys in a Negro Child.* By W. H. Geddings, M.D., Aiken, S. C. Reprint from Vol. II, Gynæcological Transactions, 1878.

*Memorial Exercises State Medical Association at the Twelfth Annual Session.*

*The Future Influence of the John Hopkins Hospital on the Medical Profession of Baltimore.* By John Van Bibber, M.D.

*Manual of the Principles and Practice of Operative Surgery.* By Stephen Smith, A.M., M.D., Surgeon to Bellevue Hospital and St. Vincent's Hospital, New York City. Houghton, Osgood & Co., Boston, Publishers.

*Transactions of the Pathological Society of Philadelphia, Vol. VIII.* Edited by J. Henry C. Simes, M.D., Lecturer on Histology in the University of Pennsylvania, Recorder of the Society.

*Formula Book of Gelatine-Coated Pills and Granules, Fluid Extracts, etc., etc.* By McKesson & Robbins, New York.

*Pocket Therapeutics and Dose Book with Classification and Explanation of the Actions of Medicines.* By Morse Stewart, Jr., B.A. and M.A., Detroit, Mich.

*First Annual Announcement of the Medical Department of the Arkansas Industrial University. Session of* 1879-80.

*Medical Heroism of* 1878. By J. W. Singleton, M.D., of Paducah, Ky. Reprint from the St. Louis Medical and Surgical Journal, 1879.

*A Description of the Medical Books and Periodicals*, published by D. G. Brinton, M.D., Philadelphia.

*Valedictory Address to the Graduating Class of Jefferson Medical College at the 54th Annual Commencement, March* 12, 1879. By J. Aitken Meigs, M.D., Professor of the Institutes of Medicine and Medical Jurisprudence, Philadelphia, Pa.

*Ringworm in Public Institutions.* Extracted from the Transactions of the American Medical Association.

*Rosacea.* Extracted from the Transactions of the Medical Society of the State of Pennsylvania. By John V. Shoemaker, A.M., M.D., Lecturer on Dermatology at the Philadelphia School of Anatomy, Surgeon to the Pennsylvania Free Dispensary for Skin Diseases, Lecturer on Practical Anatomy in the Jefferson Medical Association, etc., etc.

*Forty-third Annual Announcement of the Medical Department of the University of Louisville, Session of* 1879-80.

*Tenth Annual Announcement of the Woman's Medical College of Chicago, Session of* 1879-80.

*Pocket Therapeutics and Dose Book.* By Morse Stewart, Jr., B.A., M.D., Detroit, Mich.

*Transactions of the Pathological Society of Philadelphia, Volume VII.* Edited by J. Henry C. Simes, M.D., Lecturer of Histology in the University of Pennsylvania.

*The Demand for a Woman's Medical College in the West.* An address delivered at the Commencement of the Seventh Annual Course of Lectures and Dedication of the Woman's Medical College, Chicago, Ill. By Chas. Warrington Earle, M.D., Professor of Diseases of Children.

*American Nervousness: Its Philosophy and Treatment.* By George M. Beard, M.D., New York. An address delivered before the Baltimore Medical and Chirurgical Society, February, 1879. Reprint from Virginia Medical Monthly, July, 1879.

*Announcement of the Dental Department of Vanderbilt University, Nashville, Tenn.*

*Medical Department of University of Nashville and of Vanderbilt University. Announcement of Lectures for Session of* 1879-80.

*Laryngeal Tumors and Tuberculous Laryngitis.* By E. Fletcher Ingalls, A.M., M.D., Lecturer on diseases of the chest and Physical Diagnosis, and on Laryngology in the Post Graduate Course, Rush Medical College. Reprint from the Chicago Medical Journal and Examiner for July, 1879.

*Sixteenth Annual Report of the New York Society for the Relief of the Ruptured and Crippled, for May,* 1879.

*The Death Rate of St Louis.* An inquiry into the causes of its being less than that of any other large city of the United States. By Charles A. Todd, M.D., Professor of Physiology, etc., Missouri Medical College, St. Louis, Mo.

*Atlas of Skin Diseases.* By Louis A. Duhring, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, etc. Part IV.

*The Detroit Medical College, Detroit, Mich., Twelfth Annual Commencement and Catalogue Session of* 1879-80.

## Meteorological Table—July, 1879.

| Day. | Mean Barometer | Temperature. | | | Mean Humidity. | Rainfall. |
|---|---|---|---|---|---|---|
| | | Maximum | Minimum. | Range. | | |
| 1 | 30.005 | 88 | 76 | 12 | 75 | .08 |
| 2 | 30.090 | 87 | 76 | 11 | 74 | .66 |
| 3 | 30.107 | 86 | 75 | 11 | 81 | 1.37 |
| 4 | 30.153 | 86 | 73 | 13 | 64 | .00 |
| 5 | 30.152 | 87 | 73 | 14 | 61 | .00 |
| 6 | 30.080 | 89 | 76 | 13 | 64 | .00 |
| 7 | 30.100 | 87 | 74 | 13 | 64 | .00 |
| 8 | 30.150 | 88 | 74 | 14 | 66 | .00 |
| 9 | 30 120 | 89 | 75 | 14 | 59 | .00 |
| 10 | 30.055 | 90 | 75 | 15 | 65 | .00 |
| 11 | 29.970 | 91 | 76 | 15 | 67 | .00 |
| 12 | 29.935 | 90 | 77 | 13 | 64 | .00 |
| 13 | 29.957 | 91 | 76 | 15 | 64 | .00 |
| 14 | 29.995 | 91 | 76 | 15 | 66 | .00 |
| 15 | 30.020 | 91 | 78 | 13 | 67 | .00 |
| 16 | 30.035 | 87 | 78 | 9 | 71 | .00 |
| 17 | 30.010 | 87 | 76 | 11 | 75 | .19 |
| 18 | 29.980 | 89 | 74 | 15 | 71 | .17 |
| 19 | 29 988 | 89 | 76 | 13 | 71 | .37 |
| 20 | 29.997 | 89 | 74 | 15 | 73 | 1.38 |
| 21 | 30.002 | 86 | 75 | 11 | 73 | .00 |
| 22 | 29.910 | 87 | 77 | 10 | 74 | .13 |
| 23 | 29.863 | 85 | 77 | 8 | 79 | 1.01 |
| 24 | 29 940 | 85 | 76 | 11 | 74 | .07 |
| 25 | 29.985 | 87 | 76 | 11 | 76 | .00 |
| 26 | 29 987 | 87 | 76 | 11 | 75 | .08 |
| 27 | 29.992 | 87 | 77 | 10 | 72 | .00 |
| 28 | 30 000 | 88 | 77 | 11 | 73 | .00 |
| 29 | 30.005 | 89 | 77 | 12 | 67 | .07 |
| 30 | 30.002 | 87 | 75 | 12 | 73 | .06 |
| 31 | 30.008 | 85 | 75 | 10 | 73 | 1.39 |
| Mean.. | 30.018 | 87.9 | 75.6 | 12.3 | 70.1 | 8.95 |

## Mortality in New Orleans from July 20, 1879 to August 24, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| July 27.. | 0 | 9 | 16 | 0 | 3 | 103 |
| August 4.. | 3 | 3 | 24 | 0 | 1 | 96 |
| August 11.. | 0 | 8 | 7 | 0 | 1 | 84 |
| August 18.. | 0 | 4 | 8 | 0 | 1 | 68 |
| August 24.. | 1 | 7 | 14 | 0 | 1 | 87 |
| Totals... | 4 | 31 | 69 | 0 | 7 | 438 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

## OCTOBER, 1879.

## ORIGINAL COMMUNICATIONS.

### Gunshot Wound of Uterus; Bullet traversing six months' Fœtus; Recovery of Patient in four weeks.

By GEO. A. B. HAYS, M.D.

The late Professor Paul F. Eve, in his work entitled "Remarkable Cases in Surgery," on page 581, under the heading "Remarkable Wounds and Injuries," quotes from the *Boston Medical and Surgical Journal*, 1853, a case reported by Dr. Palmer, of the East India Company's service, in which a Burmese woman received a "bullet wound of the bladder and womb," and "recovered in three weeks." As Dr. Palmer's patient received the wound in an unimpregnated uterus, and the case was cited as an instance of great recuperative power and recovery from wounds ordinarily fatal, I would like to place upon record a very similar case which recently came under my observation, in which the complications were far more grave, and which also resulted in a complete recovery.

June 20th, 1879. Was summoned hurriedly to Magnolia Plantation, six miles distant, to see Mary Washington, colored, aged 18, married, six months pregnant, primipara, who was reported as suffering from a gunshot wound of abdomen received that morning. Reached the place at 9, A. M., and learned that about three hours previous the assistant overseer had fired a pistol shot at some hogs in the cane field; the ball had *ricochetted* from the hard, dry field road, and wounded the

woman, who was standing concealed behind a clump of tall alder bushes sixty yards distant from where the shot was fired. Upon examination I found the patient beginning to react from the shock, and complaining of severe pains in the abdomen. The ball (one from the same cartridge box weighed 136 grains) had penetrated the abdominal cavity at the left side, about two inches diagonally in front and above the anterior superior spinous process of the ileum, ranging upwards—confirming the statement that it had first struck the ground, the shot having been fired from on horseback—and had lodged within the abdominal cavity.

There had been but very little hæmorrhage externally at the first, and I found a portion of omentum an inch in length protruding from the wound; completely plugging it. The woman had not menstruated since December, and stated she was six months advanced in pregnancy. It was evident the abdominal wall was cut through, and furthermore, if the projectile had sufficient velocity at the moment of impact, the uterus and contents would be involved in the injury, but the distance from which the shot was fired, and the fact of the ball first striking the ground, prevented a positive diagnosis at the moment, probing of course being inadmissible. I reduced the protruded omentum and turned the woman upon her left side, in order to allow drainage in the event of internal hæmorrhage or effused liquor amnii in the abdominal cavity. Prescribed full doses of sulph. morphia, and ordered large, warm linseed poultices, abundantly saturated with laudanum, to be constantly applied to the abdomen.

June 21st. Visited patient at 10, A. M. She had well marked labor pains which had begun to come on about sunrise, as stated by the nurse. She had rested badly all night, scarcely slept at all. Entire abdomen extremely tender and distended. Could not bear light percussion. During a pain would by an effort of will control and arrest the contraction of the abdominal muscles, thereby throwing all the work upon the uterus. Shortly after 11, A. M., the contractions being stimulated by fluid extract ergot, the fœtus, placenta and membranes were expelled simultaneously with very slight gush of waters when the membranes were ruptured. Some coagula

escaped with the fœtus. After delivery the uterus contracted beautifully, not more than two ounces of blood being lost. Administered alcoholic stimulants and beef-tea, the patient being very much exhausted. Continued the poultices and fastened the bandage over them. Examined the fœtus for the pistol ball and found it had penetrated beneath the left scapula, ranged diagonally through the trunk a distance of about three inches, and made its exit in the right hip. Careful search could not find the ball either in the placenta or among the coagula, and I was forced to the conclusion that it had entirely traversed the uterus, and as it could not be felt externally on the right side that its course had been arrested just as it attained the inner surface of the abdominal parietes on that side. The child was a female, ten inches in length, well developed, nails formed, eyelids adherent. Evidently a six or six and a half months fœtus.

Puerperal fever set in, accompanied by peritonitis. Opium, quinine and calomel were the remedial agents principally relied upon, and the poultices before mentioned were continued until recovery. Laxative enemas were sometimes resorted to. For the first few days of her illness I had no expectation of her recovery, and in fact more than once carried with me on my visit the necessary instruments to make an autopsy, expecting to find her moribund. In my treatment I was actuated greatly by the motto *Dum anima est, spes est*, and placed a deal of reliance upon the *vis medicatrix naturæ*.

From the 27th of June, her general condition underwent a change for the better and she steadily continued to improve. The opium, quinine and calomel were persisted in until her gums became touched, when the latter was discontinued, and a solution of chlorate of potash used as a mouth-wash. A strong camphor ointment relieved the inflamed breasts. She had very little lochial discharge, it lasting only two or three days. There was no drainage from the external wound at all, and it was closed with a strip of plaster and subsequently, when it suppurated a little, dressed with oxide of zinc ointment.

July 17th, she began menstruating with but little pain or discomfort; she ceased on the 19th, and the following day, July 20th, just one month from the date of the injury, she was

dismissed, well. It is proper to state here that the manager of the plantation kept an experienced nurse at the bedside day and night, and kept the patient supplied with everything necessary for her welfare, which undoubtedly contributed very greatly towards her recovery. She is now, August 9th, walking about, feels well, sleeps well, has the appetite of a tramp and suffers no inconvenience from the presence of the ball in her internal economy.

It would be interesting to know exactly by what physiological process the liquor amnii that escaped into the cavity of the abdomen became so readily absorbed, while the entire cavity was in such an altered and abnormal condition.

Plaquemines Parish, La.

## Remarks on Skull Fracture.

WITH REPORT OF TWO CASES, ONE SUCCESSFULLY TREPHINED.

By WILEY K. FORT, M.D., New Orleans, Louisiana.

Before proceeding to a report of the following cases of skull fracture, I should premisingly state, that I have intentionally delayed this report, that I might the more correctly be able to give a fair and correct statement of the results attending the case in which the trephine was used.

Four years ago, the 27th of this past June, I was called to see Mr. Gideon Folger, aged thirty-two years, who had half hour prior to my seeing him, received a severe scalp wound complicated by—comminuted fracture of the skull, with depression. The injury inflicted was caused by the breaking of a large cast-iron wheel, which was situated on the fifth floor of a hardware store, and was part of a patent elevator. Mr. Folger was at the time standing in the car of the elevator, which had only ascended a few feet from the first floor, when the crash of iron came down. Several pieces of the broken wheel fell perpendicularly to the car of the elevator, which was about fifty feet. The weight of the pieces varied from two to eight pounds. I could not with accuracy decide which piece struck him.

I found the gentleman quietly, sitting in a chair, and apparently in a more composed condition than I subsequently found to be natural with him. Upon examination, I found a horse-shoe shaped incision, with one of the parallel lines much shorter than the other. The point of the shoe-shaped wound, pointing towards os frontis, the heel or base toward the occiput. Just beneath the scalp wound, was a comminuted depressed fracture, of the anterior superior angle of the right parietal bone, just above the parietal ridge. The scalp wound was divided quite down to the calvaria, about two and a half inches in length. The skull was gradually depressed from both sides of the fracture to the centre, camerated, imparting to the sense of touch, a sharply defined groove in the centre of the depression, of about an inch and a half long, in a parallel line with the scalp wound and parietal ridge. Althongh the finger met with considerable resistance, yet I could feel, upon decided pressure, such questionable resistance as to decide my diagnosis to be fracture of both tables of the skull, with compression of the cerebrum, and great probability of extravasation of blood from rupture of its superficies. I informed his family of his perilous condition and of my decision to trephine.

Requesting consultation, Drs. Chastant and J. T. Scott agreed with me upon the line of action I proposed. Both of these physicians kindly offered their valued assistance in the operation. These gentlemen having thoroughly put the patient under the influence of a mixture of two parts of pure sulphuric ether to one of chloroform, which I always prefer when the operation requires a prolonged anæsthesia, I proceeded to widen and extend back toward the occiput, the flap which had first been carefully raised by dissection from the cranium, with as much of the pericranium as possible. Having fairly turned back such a flap as to give ample room for unembarrassed manipulation, I felt my way through the skull bone with the trephine cautiously, just outside the line of fracture; first, with a trephine one inch across the circle, then nearly diagonally across the fractured depression with a three-quarter inch trephine. This enabled me to lift the major portion of the depressed bone with greater ease with the elevator, and with far less disturbance and injury to the subjacent tissues and

brain, than simply with one trephine perforation. The bone came away in irregular-shaped pieces, varying in size from a grain of Indian corn to that of a silver coin quarter of a dollar, together with a coagula, formed by the bleeding, lacerated superfices. Carefully detaching and removing all the fragments, I applied my finger to the dura mater and found, about the centre of the skull opening, a perforation of the dura mater, pia mater and arachnoid. Pressing my finger down upon the perforation, I distinctly felt a detached spicula of bone, which had been driven down into the cerebral pulp and fairly beneath the investing tissues of the brain. This spicula of bone I extracted with a small forceps, and which proved to be lanceolated in shape and a portion of the internal table of about half inch in length. I took more than a dozen pieces of bone away of the comminuted mass. Sponging the blood from the wound, I returned the flap to its proper position, which was then covered with a piece of old soft linen saturated with sweet oil, and over this a cloth which was kept constantly renewed with ice water. The patient rallied remarkably well from a prolonged anæsthesia, having been under the operation over an hour. Brandy and ice water was given; an hour or two later, I gave him half grain morphia hypodermically. The wound was given a free drainage. In fact, all encouragement was given to facilitate drainage; no pressure or weight was allowed on the wound; light dressings only. The wound was kept constantly cleansed, and a continuation of the above described dressing continued, except substituting simple cerate for the sweet oil, and adding a sufficient amount of carbolized oil for disinfecting and antiseptic purposes. The patient suffered but little pain from the time of operation, and had but little fever. The wound cicatrized kindly, and the patient began to get about in two months after the operation. Four years have elapsed, and Folger is in good health. I would furthermore state, that the space from which the skull was taken is protected by an exceedingly hard and strong covering, and which I am disposed to attribute much to the preservation of the pericranium when the flap was dissected up from the calvaria.

*Case 2d.*—On the night of the 9th December, 1876, George Fiegel, age 20 years, was decoyed by false statements from his

place of residence corner of Louisiana Avenue and St. Charles street, into Delachaise green, and was there struck several times about the front and top of the head with some blunt or spherically shaped weapon, which at the time was thought to be a slung-shot. A passing cartman was attracted by the moans of the wounded man, whom he found in an insensible condition, but he soon became sufficiently conscious to direct the cartman's way to his residence. I was probably by the wounded man's bedside in two hours after the injury was sustained. I found that he had lost a considerable amount of blood. Reaction had commenced. Stimulants had been given. Pulse was sixty-five and compressible. Five scalp wounds existed, which were more than half circular in form and about an inch in diameter. Two of the wounds were on the os frontis, just within the line of hair; two to the left and one just to the right and near to the occipital protuberance. The scalp was divided completely to the bone, which was abruptly depressed about the third of an inch. The circular margins of the skull depressions were about the same size as those of the scalp and quite sharply defined. That which I desire to express comprehensively is, that the skull depression did not begin with a gentle or gradual declivity, but abruptly, which I shall again have occasion to refer to, as it is in my opinion a valuable indicator to a correct diagnosis. I removed the hair and attempted no operative interference, simply applying the sweet oil dressing and cold water application. Gave him three compound cathartic pills and a solution of twenty gr. of chloral, and instructions to give Rochelle salts if the pills had not the desired effect by morning. The patient had a temperature of 103.4 degrees Farenheit for nearly three days, when the fever began to decline. I shall not tediously describe this case from day to day, but briefly state, that the cold water application, free drainage and carefully cleansing the wounds were the chief points in treatment. My diagnosis in this case was scalp wounds, concussion with depressed fractures of the external table. I should state, that the scalp wounds continued open with a slow fistulous-like discharge for some weeks, when the depressed button-like parts of the external table came away like exfoliated sequestra. This

case had a good recovery and has had no trouble from the injury ; his health is good at this time.

To form something like a correct estimate of the importance with which the operation of trephining has and is still invested in the minds of surgeons, it is only necessary to take a retrospective view of the operation within the last two centuries. In the existing and warmly contested views which have been taken from time to time, both for and against it, are to be found the names of many of the great and most illustrious masters in surgery. Among the former list, I may mention those of Prescott, Hewitt, Percival, Pott, and his world-renowned pupil, John Hunter, who went so far as to declare, that "there was no harm in the trephine." To the above names we may add the immortal Guthrie, Brodie and Velpeau. Standing in the line of those who discouraged the operation are to be found names equally as distinguished—such as Dessault, Rose, Henen, John Bell, Abernathy, Lawrence, Robert Liston, Samuel and Sir Astly Cooper, MacCormac and Neadröfer. The few recoveries and the high authority who have discouraged this operation has undoubtedly deterred too often the use of the trephine. Leon le Fort has carefully examined trephine operations, both in France and England, from 1855 to 1860. He found 157 in England and only 4 cases in France. The French surgeons are little in favor of trephining and the German less. Neadröfer's conclusions after the Franco-German war was against the trephine. Our late war of the States offered a large field for observation. No less than 12,980 cases of injuries to the head from all causes, are reported alone on the Northern side, in "The Medical and Surgical History of the War, from 1861 to 1865." Besides the large number which should have been collated from the Confederate Records, which have been shamefully entombed in Washington City for the last fourteen years, although gentlemen from the South, with commendable spirit, lifting themselves nobly above pride and prejudice for the cause of science, history and truth, and have unavailingly made laudable efforts to have the Confederate Records exhumed from their long sepulchral rest. Since writing this, I am informed, the Con-

federate Records will be exhumed. Scientific data and records and truth, are like the highly valued and brilliant diamond, they glow and they sparkle like the true gem, whenever light is given them, whatever surroundings may befall them. But to return from digression to the subject under consideration. I will copy from the valuable "Medical and Surgical History" above referred to, table viii. Although the entire report of head injuries, is replete with interest, yet I can only in the brevity of this paper give this table and a few remarks:

"TABLE VIII.

*"Results of Nine Hundred Cases of Injuries of the Skull in which Operations were Performed.*

| OPERATIONS. | Cases. | Recovered. | Deaths. | Undetermined. | Ratio of Mortality. | REMARKS. |
|---|---|---|---|---|---|---|
| Extraction of Missiles | 175 | 89 | 83 | 3 | 48.3 | The missiles extracted from beneath the skull or soft parts are not recorded in this table. |
| Ligation | 33 | 21 | 12 | .. | 36.3 | |
| Removal of bone splinters or elevation of depressed bone. | 456 | 275 | 176 | 3 | 39.0 | |
| Formal Trepanning | 220 | 95 | 124 | 1 | 56.6 | |
| Operation for Hernia Cerebri | 29 | 7 | 22 | .. | 75.8 | |

This report continues:

"Abstracting from the twenty-nine hundred and eleven cases of fracture without known depression the eighteen hundred and twenty-six fatal cases, there remains one thousand and eighty-five cases, of which two hundred and sixty-two were subjected to some form of operative interference, and eight hundred and twenty-three were treated without a resort to such measures. Of these eight hundred and twenty-three cases, two hundred and sixty-nine returned to duty, fifty-seven went to modified duty in the Veteran Reserve Corps, two hundred and seven were discharged, one hundred and thirty-five either exchanged, paroled, retired, furloughed or released, thirty deserted, and in one hundred and twenty-five instances the ultimate result could not be ascertained. Of two hundred and sixty-nine cases of patients returned to duty, the names of two hundred and thirty-

four do not appear on the pension rolls." If the latter number were living, I think a fair inference is that they would have applied for pension.

A century ago trephining and elevating was the rule in all skull fractures with depression, and I may say, at the present time, the preponderance is still held in its favor in this country where the scalp injury is considerable and involved with great depression and complicated, threatening brain perverted functions. The progress of opinion, however, in Europe, is committed to non-interference till the brain irregularities are unquestionably established.

So universally does this opinion sway the line of action usually pursued (which is expectant), that it is in my opinion one of the chief factors, giving cause for the popular odium which rests upon the operation. The golden moment of action if deferred, is lost. When the only chance for the patient's salvation is gone, and after active inflammatory excitement is thoroughly set in, and not till these very grave conditions exist, does that capricious arbiter—popular sanction—accept the situation as justifying the trephine and elevator. When the unfortunate patient is most usually doomed, the trephine then is only accepted as a dernier or forlorn hope. To decide the merits of the operation based upon the results of such cases is, beyond doubt, unfair. The question of propriety or impropriety of the trephine resolves itself as does all other questions in surgery, viz: upon a correct and sound diagnosis. When the scalp is divided and separated from the skull, which is broken and unmistakably driven down upon and pressing the brain, the surgeon is undoubtedly left without, as yet, any known method of relieving the subjacent part of brain from that pressure if he discard the trephine and elevator. Moreover, if the concave or internal brittle surface be spiculated by the fracture and some of the spiculæ be driven into and absolutely invade the brain substance, as was the condition in my trephine case, death almost inevitably would be the result. Such a complication, beyond peradventure, if not rectified would vastly enhance the danger of life, if not immediately, by wounding the blood carriers or by puncturing the brain ventricles, it

would by the inflammatory excitement which all foreign bodies of organic substances would set up by its disintengrating process when thus embeded in the brain substance. It is true we are creditably informed, that metalic substances have remained for an indefinie time in the brain. But it is not possible, that a detached organic substance can ever become incysted in its normal state in any living human tissue. I would then ask, how the surgeon is to possibly be able to determine whether this very grave and perilous condition exists and will prove his patient's destruction if he neglect or procrastinate the use of the trephine? It is true, Henen gives his Waterloo case, where the skull was driven for an inch and a quarter into the brain from the surface of the bone. No operation, we are instructed, was performed, and yet the man was discharged, cured in a few weeks. Henen certainly intended to be understood thus, that the calvaria was pressed down from its spherical position one and a quarter inches and not that a detached piece of bone was driven into the brain. For if he intended to express the latter, how else could he determine such a result without having recourse to at least the operation of elevation. I hold, there is great difference in life risk, in a mere depression of the skull bone and a spicula of detached, sharp and rugged bone, which is driven through the investing membranes and into the brain pulp, added to depression with blood clots.

Certainly, no symptoms are so infallibly described, or in fact do exist, by which the surgeon can unerringly determine, that bone has been detached and driven into the brain, or that the amount of depression, compression, or blood clot exist, which is sufficient to destroy the patient. For many days may elapse before its effects (inflammation), may be set up. Nevertheless, I apprehend that such guiding circumstances often may be ascertained when judiciously and soundly considered which would throw such guiding and valuable light upon the nature of this fracture as to enable the surgeon, to wisely determine his line of action, as to whether he will operate or persue a non-interfering course. For instance, the application of the laws of physics are to be practically taken in consideration in this con-

nection. To properly apprehend the effect of a force applied to a substance, the form, both of the body striking and struck, must be philosophically considered as well as their density and thickness.

Anatomically viewed, the differences which exist between the young and old man's skull, is decided and marked, as well as that between the juvenile and adult, and plays an important part surgically considered. The diploë in the adult skull, between the ages of twenty and thirty, is considerable, making a wide and marked separation between the external and internal tables. These anatomical variations being taken in account, in producing the differences in the character and results of such tractures, it is quite unnecessary and would be superfluous to tediously dwell upon their importance, considerered surgically.

Contrastingly compared, the material and physical injury received by the brain of the aged man who presents no more evidence of injury sustained, judged by external appearances, than the young man presents, would lead the unwary surgeon in grave error. For this most obvious reason, that the aged man's skull bone is not only decidedly thinner but denser, consequently much more fragile. The abrupt and decided depression in the vault of the aged person's skull could not exist, if in normal condition, without displacement and with an entire solution of continuity through the diameter of the cranium. While this is true in the aged, we find widely different conditions in the young adult, whose cranial tables are considerably separated by canecli or an ethmoid-like organization which exists and materially assists in preventing fracture of the internal table, as well as concussion of the brain. Again, another important diagnostic clue to the injury done the internal table, in my opinion, is to be looked for in the physical characteristics of the osseous wound. The deep camerated wound in the middle aged and older persons if connected with an elastic resistance to pressure suddenly made upon the depressed bone, would very strongly influence my diagnosis to one of grave injury of the subjacent meninges and brain substance from the shattered internal table, though no very marked brain symptoms be

present. But if I find the convexity of the external table in the young adult, even though considerably driven down, presenting sharply defined edges such as described in my second case I should require the further evidence of a yielding to pressure made on the depressed part before deciding that I had a case to deal with which demanded the consideration of instrumental interference. My conviction clearly and frankly expressed is, *that in all cases of skull fracture of both old and young is, that when the scalp is separated or divided to the bone and complicated unmistakably with comminuted depressed fracture, that the elevation of the depressed bone is imperatively and immediately demanded. The earlier the trephine is used after reaction (if concussion exist) the better will be the chance for recovery.* Where the surgeon can satisfy himself that such conditions as I have just described do exist, I unhesitatingly accept John Hunter's dictum "that when the operation of trepanning is artistically performed no harm is done." I can not refrain saying in this connection that I think very much is due in successful operations to applying the trephine more upon the outside of the fractured line than upon the portion of the skull involved in the fracture. For this reason, that the *to* and *fro* motion of the same is communicated to the injured parts beneath the fracture and which are aggravated by further disturbing the molicular arrangement of nerve cells. I prefer that two-thirds of the circumference of the circular trephine saw should rest on the firm bone contiguous to the broken mass which is to be lifted, carefully observing in doing so that the duromater be gently detached by carefully applied strokes of the knife closely made to the bone. Too much care can not be taken to perform the operation carefully, quietly, gently, so as to do no violence to the brain and its superfices.

The brain and investing membranes should by all means be left free and unembarrassed by stitches, sutures, bandages, or pressure from any source, under the mistaken idea of preventing hernia cerebri, which disorder is the legitimate offspring of inflammation. The brain and its superfices do not become too large for their natural encasement, unless it be the result of

hæmorrhage, or inflammation, in which case sound pathology would acquiesce.

My views of the inflammatory conditions of the brain and its effects on the meninges were given in a paper on Cerebro-Spinal Meningitis, published in the *New Orleans Medical and Surgical Reporter*, vol. iv., 1877. Embolism, thrombosis and, in fact, lesions of the cerebro-vascular system, play the most important part in the pathology of skull injury, to duly dwell upon which would extend this paper to too great a length.

With regard to sudden death, which occurs nearly and remotely after skull fractures, and also the cause of liver abscess, very much may be said. For instance, encephelo-spinal fluid tightly confined in the ventricles or blood clot pressed upon the floor of the fourth ventricle, would produce functional influences corresponding to the length of time sustained, in consequence of hæmorrhage in the pathways of transmission of motor and sensory impulses thereby disturbing secondarily circulation, resulting in cardiac, pulmonary, hepatic and renal disorders. It is claimed by high English authority, that a clot of blood extending from the anterior commissure of the cerebrum in the third ventricle, through the chambers and passing through the entire narrow prolongation of the *iter a tertio ad quartem ventriculum*, through the cerebro-spinal opening, caused instant death, by clot pressure upon the origin of the pneumogastric nerve originating from the floor of the fourth ventricle, causing paralysis of the nerves of respiration. This fact would justify the conclusion, that closure of the passway of the cerebro-spinal fluid upon the corpus collosum or striata, by pressure or from whatsoever cause, would be sufficient to cause fatal termination. Not only as occurred in the English surgeon's case, instantly, by paralyzing the pavagum nerve and stopping respiration, but also by interfering with functional action; setting up a hyperemic condition of the cerebrum, cerebellum and their meninges, eventuating in an inflammatory action of either acute, passive or chronic character, or possibly by resulting in a hernia cerebri. It is most likely that in this manner, that functional perverted influence is brought about resulting in abscess of the liver, as was long since

observed as a sequel of head injuries by Bertrandi, Andonilli Klein, and others. Another perilous complication which is quite probable in depressed fracture, is that which I have already described in the case of Folger, in which a lancelated spicula of bone from the internal table was extracted, which piece of bone was directly beneath the depressed mass and deeply imbedded in the cerebral texture. Had this spicula of bone penetrated the ventricle, thus giving exit to the cerebro-spinal fluid, I think I am justified upon sound pathological ground in concluding, that a sufficient cause in such event is established to set up a dangerous excitement and turgescence of the veins; such a condition as is induced by suddenly letting out the cerebro-spinal fluid by puncturing the saculated accumulation about the region of the sacrum.

Most surgeons agree that a large number of chronic disorders are the result of local injury of the brain. Sudden death often occurs a long time after concussion. The removal of the local disturbing cause is the only rational method of avoiding such results. The very complex and delicate structure of the brain requires longer time for reparation of injury sustained than other tissues and structures. Unlike the cerebrum, cerebellum or nerve tissue, the scalp reparative ability is something wonderful when compared with any other part of the body. This is forcibly illustrated in the plastic operation for artificial nose. Although it may be a considerable portion of the scalp which is dissected up and twisted over from the forehead and fulfills a *good end*, yet little or no cicatrix is left. In the month of May, in the year 1854, I saw a girl fourteen years of age, who was taken to the Pennsylvania Hospital in Philadelphia, and who, in attempting to caress a large Bengal tiger, was seized suddenly back of her head with both paws thrust through the iron bars of his cage, clawing the girl so forcibly to the cage that her scalp was literally torn from the occipital bone, entirely across the head to the superciliary ridge of the os frontis. The scalp was lifted like a mask from her face and adjusted. Yet this girl made a good recovery, with no horrible and unsightly scar as might be supposed.

I apprehend that very much of the odium which exists in

the mind of the profession concerning the trephine and elevator, should more properly belong to the sutures, stitches, bandages and such contrivances, as different ones may have had predilections in favor of, for the purpose of coaptating and firmly holding the lips of the scalp wounds in situ. I have seen the heads of patients, with scalp and head injuries very artistically, but exceedingly unscientifically bandaged so tightly as to cause great pain for (the not only useless, but unwise purpose of) restraining and holding the lips of the wounds together, as well as for the double purpose in skull displacement with a durameter rent, to repress and prevent hernia cerebri. All such contrivances are not only useless, but they are exceedingly prejudicial and positively injurious by the pressure, by the heating, by the irritation, and by painfully arresting free discharge of offending and often unhealthy detrita. Scalp wounds are almost always attended with some discharge, which finds a nidus or lodgement in some hidden recess or pocket, underneath the wounded integuments. Should vent to such accumulated plathoras be unfortunately closed up or retarded in exit, thereby arresting natural drainage, the consequences are sometimes dire and calamitous.

Even the transuding, coagulated and disorganizing blood thus confined by the irritating sutures, is sufficient to often set up an evil train of complicated conditions, resulting frequently in traumatic or erysipelatous fatalities. These are but a part of the unfortunate concomitants which have so long, so unfortunately and so unjustly contributed fruitful cause for throwing odium upon one of the most meritorious operations in surgery.

## Remarks on the After-Treatment of Bronchotomy.

(Read before the New Orleans Medical and Surgical Association, August 2, 1879.)

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*Mr. President and Gentlemen :*—Since our last meeting, when I was appointed to prepare a paper, I have gathered some facts upon a subject which should be of equal interest to us all ; for

physicians, as often as surgeons, are called to perform the operations on the windpipe and conduct the after-treatment. The points presented for discussion may seem at first glance to be minor matters in surgery. However, the object of this paper is to emphasize their clinical importance, for in no class of cases does success depend more upon a careful attention to the minutiæ of surgical therapeutics. We will discuss in order:

I. Suggestions in the selection of suitable tracheal tubes.

II. The simple indications in the after-treatment, and the importance of their careful observance.

III. An account of some of the accidents and diseases which complicate the after-treatment; and how their frequency may be lessened and the fatality of operations on the windpipe reduced.

The first question to be settled is: Why not use the simple retractors to hold open the incision in the windpipe rather than insert any canula? Some operators, renowned as authorities, discard altogether the use of the canula, in the belief that the presence of an instrument inserted immediately after opening the windpipe, irritates, excites inflammation and ulceration, and favors the development of pulmonary diseases. They prefer the retractors. I have had no experience in this practice. The procedure seems primitive, but certainly better than the use of imperfect tubes, the bad results of which no doubt originally suggested the plan of treatment. In view of the constant tendency of the opening to contract, I would hardly expect the retractors to answer the purpose, unless the neck bands were made uncomfortably tight. Most of the advocates of this plan find it necessary to cut an elliptical piece from the windpipe, that the retractors may the better serve their purpose; and, strange to say, they have never observed narrowing of the passage as the result. Anyhow, we have learned a lesson, which we may utilize in an emergency, or even practice in certain cases where the retractors are to serve for only a short time. But I must think that the instances are exceedingly rare, when a suitable canula would not be preferable, especially if the artificial opening is to be maintained for any length of time.

I. SUGGESTIONS IN THE SELECTION OF SUITABLE TUBES.

As we have seen, a very simple device may serve for awhile to keep the incision in the windpipe open. Some years ago, a resident student in the Charity Hospital saved his patient by incising the larynx and inserting his toothpick. Only a few years since, a man from one of the country parishes came into the Hospital breathing through a section of reed-cane inserted into the trachea several weeks previously. Now, I do not propose to write up all the instruments which the genius of invention has given to the profession; will only examine those in common use which our markets now supply. Nearly all tubes are now made, as they should be, with a double canula, and with the neck-plate movable upon the tubular portion; but it is not too much to say that most of them are faulty in several important particulars.

1. *Relative length of the inner and outer canula.* Some tubes, even to this day, have the outer canula longer, around which a ring of gummy mucus may form in the trachea. The inner canula should also project in front, that it may be easily closed when the patient speaks. Some silver tubes have the staples for fastening the neck bands so projecting in front of the opening as to allow its closure with difficulty. (See the pattern.)

2. *The curve of the canula.* Some of the tubes now made are too straight, so that, when inserted, the end presses unduly against the posterior wall of the trachea and œsophagus. Others are curved too much, so that in an ordinary case the convexity would bear against the posterior wall of the trachea, while the end would press the anterior. Some of these short curved tubes are made too long, and the greater is the danger in their use. Now, even after making due allowance for swelling and thickening of the tissues, see the greater risk attending the use of such tubes in persons of slim necks. The articulated canula, which adapts itself to fit the windpipe, was introduced into the Children's Hospital of Paris, to obviate the difficulty just mentioned; and afterward, erosion of the mucous membrane and ulceration of the trachea were much less frequently observed. But the jointed canula is hard to clean, easily gets out of fix, and may break and drop into the

trachea. If the canula be single, the greater is the objection to its use. The ordinary double canula, of gutta percha or silver, is best, if simply altered. The inner part of the canula, from its point of entrance into the trachea, should be made straight, while the outer portion should bear the proper curve.

3. *The breathing calibre of the canula.* This, of course, should be selected in each case to accord as nearly as possible with the size of the windpipe. Trousseau was the first to urge the use of large canulæ—as large as possible to be introduced with ease and fit comfortably. Most of the tubes for adults have a calibre too small; some are only 3-16ths of an inch in diameter, scarcely one half as large as the rima glottidis, while the size of a few offered for sale is inadequate to the maintenance of life.

Let us take a hurried glance at the anatomy of the windpipe in the male adult. The narrowest part of the air passage is in the laryngeal cavity, at the rima glottidis. Here is a chink, contracting in expiration by the recoil of its elastic tissue, dilating in inspiration, like the chest, by the action of its muscles. In expiration it is triangular in shape, with sides measuring about one inch in length; base, one-third of an inch. In females this measurement is a little less. In inspiration this triangle is widened into a pear-shaped aperture, varying in width, at its widest part, from one-third to half an inch. Just below is the cricoid cartilage, which is larger than the rima, even in inspiration. The trachea is still larger than the cricoid, and varies in diameter from five to seven lines (5-12ths to 7-12ths of an inch). Any narrowing of this natural channel proportionally impairs respiration. Then, the breathing calibre of tubes for adults should range from four to five lines in diameter; ordinary size 3-8ths of an inch.

Operations on the windpipe are required far more frequently in children than adults, and their after-treatment imposes a much greater tax upon our care. A few words, then, in regard to the anatomy of their windpipe and the measurements which have been made. In the first place, it is next to impossible to get correct measurements of the rima glottidis in an infant by

any examination during life. Most of the measurements are made after death, when, by the recoil of the elastic structure of the larynx, the aperture is at its very smallest size. We see at once the dangerous fallacy of some of the measurements, that of Mr. Holmes, for instance, who gives the long diameter of the elliptical opening of the rima, at the age of two years and eight months, at 1-6th of an inch. Furthermore, in taking the dimensions of the rima, in view of the selection of suitable tubes, it is well to bear in mind that the opening is not stationary, like a canula, but dilates in inspiration, and may also yield in expiration. The trachea varies in diameter, between the ages of one and twelve years, from one quarter (below one year it is but little less) to half an inch. Then, between the ages of one and twelve years, the breathing calibre of the canula should range from two and a half to four lines in diameter.

The anatomy of the neck of a child is on a very small scale; the crico-thyroid space is small; the thyroid body situated high up, extending in many cases right up to the cricoid cartilage; the front of the trachea is covered by the plexus of vessels and the thymus gland, which often reaches the thyroid; but a place can always be made for inserting a tube of sufficient size. The tubes made nowadays are large enough, as a rule, in their outer circumference; but most of them are made of gutta-percha, and the material is such that the walls of the double canula have to be made thick. This is done at the expense of the breathing calibre, which, in some tubes, is too small to sustain life long. In this connection one fact more is worth mentioning. The windpipe begins to grow very rapidly from the age of twelve years, as evidenced by the change of voice in youths. The size of the air passage soon attains nearly that of adults, and such cases will, then, require canulæ ranging from one-third of an inch to the size for adults.

To recapitulate, we may say for practical purposes, between the ages of one and twelve years, the calibre of the canula should range from $\frac{2}{16}$ to $\frac{4}{16}$ of an inch in diameter; in youths from $\frac{4}{16}$ to $\frac{6}{16}$ of an inch; in adults from $\frac{6}{16}$ to $\frac{8}{16}$ an inch; ordinary size $\frac{7}{16}$ of an inch, the maximum to be used in persons of great stature.

II. THE SIMPLE INDICATIONS IN THE AFTER-TREATMENT, AND THE IMPORTANCE OF THEIR CAREFUL OBSERVANCE.

The general management of cases should, of course, be conducted upon the general principles of practice. We pass over the special treatment of particular cases to speak only of such directions as are applicable in all cases.

1. Procure for the patient breathing air (a) of the same temperature, and (b) the same degree of moisture as that inspired through the natural channel.

(a) The air of the patient's chamber should be fresh, and maintained at a temperature of about 80° Fah. Patients have complained to me of a sense of cold and constriction in the chest upon exposure in an air draft.

(b) The benefit of breathing a saturated atmosphere, such as some patients are made to live in, is not apparent. The benefit of air moderately moist is evident. It prevents the formation of dry crusts of mucus on the walls of the canula, which, becoming detached, are apt to be sucked into the windpipe; it also prevents the formation of these crusts in the bronchial tubes, which irritate and inflame the mucous surface, and increase the risk of pulmonary diseases. Statistics show that a close observance of the points just mentioned has very materially lessened the frequency of catarrhal or broncho-pneumonia. All sorts of contrivances are devised to warm and moisten the air around the patient. Here is room for the exercise of ingenuity. The simplest, and perhaps the most efficient expedient, is to wrap the neck in a gauze or woolen material. Trousseau's "knitted comforter" answers the purpose well. Into this the patient breathes, and through this he inspires air filtered of many of its floating particles, and made warm and moist by the vapor exhaled from his own lungs. This expedient, although efficient, should be adopted and practiced with the utmost caution. Every one knows the sensation of suffocation in lying in bed with the head covered. The effect is the same in confining the canula too closely. Especially do I impress the caution in the management of little children, who, unable to tell their complaints, may be smothered with the greatest ease.

2. The inner canula should be removed and cleansed as often as necessary. In some cases a viscid mucus is secreted from the bronchial tubes, and the cough to force it out is harrassing and painful. In most canulæ there is no breathing room to waste, and this tenacious mucus, choking the canal, is the occasion of great distress. Inhalation of the spray of lime-water is often useful in facilitating its expectoration. At the risk of taxing you with details, I must tell how tubes are often cleaned—by being threaded on a tape, and slipped back and forward from one end to the other. By this means, some mucus always remains in the convexity of the canula. I once knew of a case in which, after the death of the child, the canula was returned choked with gummy mucus. The tube can be best cleaned with hot water, or a weak solution of potash, by pushing wads of lint through on the point of a probe.

Such are the simple indications in the after-treatment—modify the air which the patient breathes to make it like that inspired in health, and keep the canula clean. In carrying out these directions, constant vigilance on the part of the attendant is the price of the patient's life. I would simply add, let us be sure to remove the canula as soon as the patient can go with safety without it.

### III. AN ACCOUNT OF SOME OF THE ACCIDENTS AND DISEASES WHICH COMPLICATE THE AFTER-TREATMENT.

A tube to be worn for a long time, should be removed from time to time, to guard against wear and corosion of the material. Cases are recorded in which the tubular part became detached from the neck-plate and dropped into the trachea. For long use, the vulcanite tube is preferable. Even a silver canula is liable to wear and break. About two years ago, at the Saturday Surgical Clinic, I assisted Prof. Samuel Logan in a cricotomy for a gunshot wound of the larynx. A silver canula was temporarily inserted. Later, it was proposed to introduce a gutta percha tube. Lest he should be the loser in the swap, the patient deserted the Hospital. After a time he lost the inner canula, but continued to wear the other until misfortune overtook him. One morning, about eighteen months after the operation, he returned, a penitent, and came to me,

with one half of the canula in his hand, the other in his trachea, doing but little harm. While preparing for its removal, a paroxysm of coughing came on, and the broken tube was expelled through the mouth. The deserter had, of course, worn the canula longer than was necessary; and besides, suffered of an accident which never would have happened under the operator's care.

I would call special attention to the accidents and diseases which follow the use of imperfect tubes.

In the first place, of wearing tubes too straight or too much curved, pain in swallowing and coughing, erosions of the mucous membrane, occasional hemorrhages into the trachea, with expectoration of blood through the tube, and ulceration, are the usual minor consequences. The last has been commonly observed, more frequently of the anterior tracheal wall, a fact evidently due to the pressure of the end of the canula. The ulceration may be attended with necrosis of the tracheal cartilages. Cases are recorded where the ulceration has even extended through the anterior wall of the trachea, two of which, in Guy's Hospital, resulted in an opening of the innominate artery.

Bronchitis may be the direct result of the extension of inflammation from an ulcerated patch, or from a spot irritated by the pressure of the canula. This disease may lead to catarrhal or broncho-pneumonia, a complication of rather frequent occurrence in past years. Abscess, the formation of pus sinuses, which, in some instances, have been known to burrow even into the anterior mediastinum, and pyæmia, with its train of symptoms, may also occur.

Secondly, I wish to draw particular attention to the diseases which may arise from the use of canulæ too small in calibre.

Pneumonia is one of the most frequent, as it is one of the most fatal, of the diseases which complicate the after-treatment. When, on any account, the air passage is obstructed, this disease may result. The lungs are not fully inflated, and parts of the organs must remain inactive, collapsed. The capillaries in the walls of the unexpanded air cells offer resistance to the circulation, a compensatory hyperæmia is the result, and this state of congestion is the potent predisposing cause of

pneumonia. The disease may, as it not unfrequently does, occur before the windpipe is opened for the relief of the obstruction. If, after bronchotomy, a canula too small be inserted, the respiration remains imperfect, the congestion of the organs is prolonged, and the chances for the occurrence of pneumonia are the most favorable that can be procured. If what has gone before be true, its occurrence, in many instances, no doubt, may be averted by the use of canulæ of sufficient breathing calibre.

Pulmonary consumption may follow respiration permanently impaired on any account. Long continued mechanical hyperæmia of the lungs, from imperfect expansion, impairs their function, lowers their vitality and prepares a place for tubercular deposit. If, now, a patient should escape pneumonia, we see the remote danger of wearing a canula too small. I have seen two cases contract pulmonary consumption, while wearing gutta-percha tracheal tubes of the ordinary size now made, and die within six months after the operation.

It may not be out of place to mention here the symptoms, which sooner or later ensue, if by mistake, or in any emergency, a canula too small in calibre be inserted. In the first place, the respiratory acts are prolonged, one following another with scarcely an interval. Secondly, the whistling sound through a canula too small is ominous. Natural respiration, at a short distance, is nearly noiseless; so is respiration through a tube large enough. Thirdly, the patient feels fatigued. He has to call into service the auxillary muscles of respiration to overcome the difficulty, and breathing becomes a tiresome task. Sleep comes to the relief of the wearied muscles, and the patient, when not asleep, is nearly always drowsy. Fourthly, the patient may feel oppressed for want of breath, and the slightest exertion increases the difficulty. Such symptoms can scarcely be mistaken in adults, nor in children, if they be attended with proper care.

Nearly two years ago, I performed laryngotomy on a woman now in ward 38, Charity Hospital. She is the subject of leprosy. The invasion of the mucous membrane of the mouth and larynx demanded the relief. I inserted a gutta-percha canula, with a calibre of one-third of an inch in diameter. A short time since, I replaced this tube with a smaller one,

3-16ths of an inch in diameter, the largest gutta-percha tube at the time in the New Orleans market. At the end of six hours, she informed me that "she had to breathe with such an effort that she felt tired and oppressed." The old canula was repaired and reinserted and again she was comfortable.

We have now shown the imperfections in many of the tracheal tubes now made, and pointed the risks attending their use; we have offered some suggestions in the selection of suitable tubes, and urged the necessity of carrying out, with the utmost care, the simple indications in the after-treatment. The more judicious management of latter years has already reduced the death rate. The object of this paper looks to a continued improvement in the after-treatment, by which many more of the accidents may be averted, and the pulmonary diseases occur still less frequently. The clinical importance of the facts we have gathered, deserves a second thought. The art of medicine is made up of little things, attention to which makes the physician perfect in his profession.

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## Singular Case of Recurrent Calculus of the Bladder.

By PROFESSOR T. G. RICHARDSON, M.D.

[Reported to the Orleans Parish Medical Society, July 28, 1879.]

In the year 1865, I cut a gentleman for stone in the bladder, resulting from gunshot wound. The case was one of peculiar interest, and was published in detail in the New Orleans MEDICAL AND SURGICAL JOURNAL for September, 1866. An abstract of the history there recorded is necessary for the proper understanding of the sequel:

"D. J. B., of Mississippi, æt. 27, admitted to private infirmary November 24, 1865; was wounded three years previously at the battle of Sharpsburg, by a minnie ball, which entered the pelvis in front, about an inch to the left of the pubic symphysis, shattered the pubic bone, traversed the bladder and rectum and escaped at the right sacro-sciatic notch. Urine escaped through the wound in front and the rectum for several months. The wounds finally healed, but patient had no control over his bladder. Several fragments of bone passed

the urethra, but without affording relief. Later on, the communication with the rectum reopened, and at the time of his admission into the infirmary, all the urine had been passing by that route for several months. Patient was reduced to a mere skeleton and never free from suffering.

Upon attempting to pass a bougie the prostatic urethra was found to be blocked up by calculi or fragments of bone, and with the finger in the rectum a mass of similar material was felt projecting through the fistula. As it was necessary that the patient should be relieved as soon as possible, the following day a grooved metallic bougie was passed into the urethra and forced alongside of the obstructions into the bladder, and the usual lateral operation of lithotomy performed. Two calculi, each weighing 1¾ ounces were removed from the bladder and two of smaller size from the prostatic urethra, all of a phosphatic nature. Contrary to my expectation, they did not contain fragments of bone or other foreign substance as nuclei, but the central portion of each of the larger ones was soft, resembling freshly mixed mortar. The incision was kept open for four weeks by means of a canula, to enable the vesico-rectal fistula to close, which having been accomplished, the instrument was withdrawn and the wound healed up rapidly. Slight incontinence followed, but this soon subsided and the patient rapidly regained a fair state of health."

Nothing more was heard of the case until June 1st, 1879—nearly fourteen years after the first operation—when the patient presented himself again with symptoms of stone, which he said came on about four months previously. Upon introducing a sound, a small calculus was readily detected, and two days subsequently I performed lithotomy. The stone was phosphatic, and among the fragments discharged I discovered a coarse woollen thread, about two inches long, doubled upon itself and encrusted with calculous deposit. The thread had evidently been the nucleus of the stone, and must have been carried in by the ball at the time the wound was received. The only way to account for its long retention, is to suppose that it became entangled in the cicatrix, and only recently made its way into the cavity of the bladder. This explanation is partly confirmed by the fact that the patient has never been entirely free from slight vesicular irritation since the first operation.

Upon sounding the bladder carefully a few days afterwards, no remains of the calculus could be discovered, a single crushing having sufficed for its entire discharge.

## Malarial Hæmaturia.

By J. D. HAMMONDS, M.D., Lind Grove, La

In presenting this subject, I will not enter into the discussion whether an hæmorrhagic tendency can exist, caused by malarial poison, without the presence of hæmaturia, but I will treat of hæmaturia as found in our part of the country and the way it came under my observation.

Malarial hæmaturia is, as its name implies, a hæmorrhage in the urine, but we mean to convey the idea of a hæmorrhage from the kidneys, when we speak of malarial hæmaturia, and the same caused by malarial poison. I will not enter into a long and uninteresting search after the origin of this disease, but will confine myself to stating, that it was only about thirty years ago that it was discovered to be a separate and distinct disease from contagious epidemic yellow fever, while I am satisfied that this disease existed in the strongly malarial districts of the Southern States prior to the time I mentioned. For, if we concede that it is caused by malaria, we must admit that there was just as much malaria in the Southern States one hundred years ago, as there is to-day, and there is nothing to prove that its power to prostrate the human system is any greater to-day than it was then; but, the disease prevailing during the latter part of the summer and the autumnal months, at the very time when yellow fever usually makes its appearance in our climate, it is easy to understand how the practitioner would readily pronounce it a case of epidemic yellow fever, or erroneously call it by the name of malignant bilious fever; and so in my opinion it has thus existed and been treated ever since the settlement of this country.

Malarial hæmaturia is met with in three distinct forms, viz., intermittent, remittent, and continued or inflammatory, which for practical purposes I will treat separately, but will try to give the general symptoms first, and afterwards notice each type and its special symptoms separately.

The most important symptoms which are met with in every form of the disease are three: 1st, Bloody Urine; 2d, Nausea and Vomiting; 3d, Discoloration.

1st, *Bloody Urine.* When the urine is first voided in this

disease, it is of a red color, and to the eye of the observer resembles blood in every respect, except that it will not coagulate, and is too dark for arterial and too light for venous blood.

2d, *Nausea and Vomiting.* There is usually considerable nausea and vomiting, sometimes of a dark green matter, at other times it may resemble bile, or again it may consist of nothing else than the secretions of the stomach and its contents, during the whole course of the disease; and in rare cases, as the disease advances, the ejecta will be the contents of the stomach mixed with what is usually called coffee grounds or black vomit. There is a general feeling of prostration accompanying the nausea and vomiting, which is increased upon the least exertion, and the patient is tossing from one side of the bed to the other, whilst he complains of being extremely faint.

3d, *Discoloration.* The skin and conjunctiva, after the duration of from 1 to 12 hours of the hæmaturia, assume what I would call a dark lemon color, whilst the perspiration and the serum exuding from blistered surfaces appear to be charged with the same coloring matter.

The hæmaturic condition is ordinarily preceded by a rigor, which resembles more the shock to the nervous system manifested by one who receives a sudden and severe injury than a common ague.

Having given an outline of the disease in general, I will proceed to the special types, their special symptoms, and the treatment I am usually pursuing.

### THE INTERMITTENT TYPE OF MALARIAL HÆMATURIA.

This form of the disease sets in by a severe rigor, as mentioned heretofore, followed by a fever, hæmaturia, nausea and vomiting, prostration and discoloration, all of which symptoms disappear simultaneously with the subsidence of the exacerbation of fever, leaving the patient somewhat prostrated with a very slight discoloration, but in a comparatively easy condition until the next paroxysm, which like a simple intermittent may be of the quotidian, tertian, or double-tertian type. The pulse in

this form of the disease does not differ from what we find the same to be in simple intermittent, being excited during the hot stage, reaching frequently as high as 130 or 140 per minute, and falling gradually as the fever is leaving and the sweating stage is progressing, becoming entirely normal during the intermissions. The tongue is slightly coated with a white film during the feverish excitement, as in any other intermittent; and frequently the case, like any other intermittent, if not checked by proper treatment, will sooner or later assume one or the other of the more severe types of the disease.

The treatment that I usually pursue in this form of the disease is as follows: To allay the excitement by diuretics, diaphoretics, etc., and mercurials in purgative doses to arouse the secretions and relieve the engorgement that may exist in the portal circulation, followed during the intermission with decided doses of antiperiodics, the sulphate of quinine of course having the preference, if attainable.

### THE REMITTENT TYPE OF MALARIAL HÆMATURIA.

In this form of the disease the patient is usually attacked with what would seem to be a simple remittent fever. After a few remissions have taken place, the characteristic rigor with all the symptoms accompanying hæmaturia set in, and in a far more aggravated form than in the intermittent type, though cases are met with wherein the hæmaturia and other symptoms have presented themselves from the onset of the disease, preceded by that characteristic rigor above mentioned. After the hæmaturia has once set in, it never disappears altogether. It may assume a lighter color, but it still retains a sanguineous appearance, though during the remission it frequently happens that the urine, after having been voided for some time, becomes apparently clear with a dark sediment settling to the bottom of the urinal. The quantity of urine voided in this type is usually larger than in the preceding type, and the prostration seems to keep pace with the amount voided, which during the remission becomes somewhat less frequent and less copious. Should the disease terminate favorably, we notice a diminution in the quantity voided, the urine getting clearer from

time to time, which is a favorable symptom as regards prognosis. Upon the other hand, should the quantity continue to increase it augurs ill, as the patient may die from actual prostration consequent upon loss of the vital fluid, whilst we flatter ourselves with having stopped the paroxysm and expect a recovery. Again, should the quantity diminish but become darker every time it is voided, though the paroxysm fail to recur, as long as nausea and vomiting still continue, we may expect suppression to set in, and uremia, coma and death to follow as a result.

### THE CONTINUED TYPE OF MALARIAL HÆMATURIA.

From what we have seen during the progress of the two types of the disease heretofore mentioned, there is quite a resemblance between this disease and common malarial fever, and in fact the cause is the same. There are localities where a certain poison is by some means or other generated, which, acting upon and enfeebling the nervous system of man, causes secondarily the weakening of the *vis a tergo* of the heart's action, thereby allowing congestions to take place generally in some one of the organs connected with the portal circulation, and giving rise to the different types of malarial rigors, fevers, reactions, etc.

This poison, whether palpable or not, we call by the name of malaria. It is vague indeed, yet it expresses an idea, and leads us, if not into the nature of that particular poison, at least into the mode of its manifestation. Now, in all malarial fevers the congestion thus produced may remain in the passive stage, but may also increase and enter an inflammatory stage, in which case we have to treat a remittent connected with inflammation of some organ, or a continued fever connected with some inflammation. That the same may be the case in malarial hæmaturia is quite obvious to my mind, as I do pathologically distinguish this disease from simple malarial fever, by its having a congestion or inflammation of the kidney connected with it. Whether it is the idiosyncracy of the individual which makes him more liable to suffer from a congestion of an organ connected with the systemic circula-

tion, than anybody else, or the same is caused by certain climatic influences, it would not make any material difference in the treatment. Suffice it to say that I believe the intermittent and remittent types of hæmaturia to be a congestion of the kidneys, whilst I take the continued form to be an active inflammation of the organ.

With this preface I am ready to give an outline of the disease, and the treatment I always follow, which will prove my assertion regarding its pathology.

In the disease now under consideration, the peculiar rigor heretofore mentioned generally precedes the hæmaturic condition, but sometimes the hæmaturia manifests itself before the rigor, which, however, immediately follows the hæmaturic appearance. The rigor lasts for a longer or shorter period, and is followed by a reactionary fever, which does not range so high as in the other types of the disease, the pulse, according to my observation, rarely exceeding 110 to the minute—in fact, showing very little of the severe disturbance which the economy is undergoing. Frequently during the progress of the fever there is a recurrence of rigors, which have no influence whatever upon the pulse, and seem to be more a manifestation of shock that the nervous system has received than common rigors, having no special period and no influence upon the temperature as far as I could observe. The hæmaturia may remain the same in appearance, but becomes usually more and more copious during the first 24 hours. As the disease advances, the urine diminishes in quantity, but at the same time turns more grumous and darker. If it keeps on in that way, sooner or later complete suppression takes place, and the patient dies comatose; on the other hand, the urine may continue to be voided in larger quantities, until the patient dies in an exhausted condition, remaining conscious to the very last. Now and then, however, the urine becomes less in quantity, losing the sanguineous hue, clearing up more and more from time to time, and the patient escapes with his life, but remains with a weak kidney for some time, which may now and then take on Bright's disease or diabetes, and terminate in death with hæmaturia as its primary cause.

The nausea and vomiting are very excessive in this type, very

distressing to the patient and perplexing to the physician, on account of being often at a loss how to proceed in administering medicines when the stomach is not in a condition to retain anything whatever.

The discoloration of the skin, conjunctiva, etc., sets in shortly after the hæmaturic condition is established, and retains or deepens its hue, often even assuming a bronze color, especially when tending to a fatal termination.

Complications, such as congestions or inflammations of other internal organs, are frequently observed, and the whole surface will sometimes be bathed with a perspiration during the entire course of the disease.

The diagnosis of this form of the disease is very simple, yet must be attended with great care, as it is essential not to confound it with the other two types, for the treatment of the latter forms would not only be unavailing, but would even increase the danger.

### TREATMENT.

Whilst describing the remittent type, I omitted the treatment with the purpose of showing the difference to be observed between the remittent and continued types, and when it becomes advisable to treat the former the same way as the latter. From the pathological view I have taken in describing these two types, it is obvious to every one that, whilst quinine during an intermission or remission would be sound and logical treatment, it would not only be useless, but even contra-indicated, in the treatment of an active inflammation of the kidney. Quinine is to a certain extent an irritant to the kidney, and would, therefore, not be admissable. The object to attain in this type of the disease is to allay the inflammation and promote absorption, and with this view I usually prescribe mercury in alterative doses, not minding a slight ptyalism; also saline diuretics, unless the discharge from the kidney is too free, in which case I substitute a general stimulant to support the system. I also use counter-irritants, in the form of sinapisms, to be followed by a blister in case of the least suspicion that suppression may set in. If I succeed in bringing the in-

flammation to a favorable result, my patient is saved, as far as immediate danger is concerned.

I find it necessary to keep the bowels open by gentle purgatives, and also prescribe fluid extract of gelsiminum, which may be combined with sweet spirits of nitre, in the proportion of four parts of the latter to one part of the former, with the aim of equalizing the nervous system and acting gently upon the kidney. In cases where debility has set in, I use spirits of turpentine and discontinue the nitre, but watch its effect upon the kidney.

In the remittent type quinine may be administered during the remissions, but as soon as the paroxysms cease, whilst the urine becomes diminished and darker from time to time, there is danger of suppression. The quinine treatment must be stopped at once and substituted by the active antiphlogistic treatment above mentioned.

Such is the substance of my treatment of the disease, and it is my opinion that the failure to make the proper distinction between the different types has been, and is, the great cause of the diversity of opinion among eminent members of the profession with regard to the use of quinine and mercury in its treatment.

Whilst some exalt quinine and undervalue mercury, there are others, equally able, who consider mercury as a *sine qua non*, and charge quinine as being a poison in the treatment of hæmaturia. The truth is, the difference of type makes the difference of the treatment best adapted to meet the indications.

Lack of time has prevented me from treating the subject as fully and extensively as it deserves, but I hope that my feeble efforts will serve to direct the attention of the profession to a closer observation of this disease, and if not correct, I may thereby be instrumental in causing some one more learned than myself in the healing art to give to the profession a true and exhaustive treatise on this much dreaded destroyer of human life. In any case, I promise to continue my observation in the future as I have in the past.

## Twenty Cæsarean Operations with Fifteen Women Saved in Louisiana.

By ROBERT P. HARRIS, M.D., 713 Locust street, Philadelphia.

I have received the twentieth case of gastro-hysterotomy for Louisiana's record—the operation was performed upon a black dwarf, with success, in 1873, in the Parish of Assumption, near Napoleonville, by Drs. Charles and Gaston Bordis. The child was lost. The woman made a good recovery, but died undelivered a year later, having refused assistance until beyond hope. I am indebted for the case to Dr. Thomas B. Pugh, of Bertie.

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| Number of operations in the State | 20 |
| Published by operators or others | 9 |
| Communicated by letters to me | 11 |
| Operations twice on 3 women, all saved | 6 |
| Children delivered alive | 12 |
| Children died soon afterward | 2 |
| Women saved | 15 |

## Chronic Inversion of the Uterus of Five Months Duration Reduced by Emmett's Method.

(*Case reported to Medical and Surgical Association,*)

By E. S. LEWIS, M.D., Prof. Obstetrics and Diseases of Women, Univ. La.

Annie McM., a native of New Orleans, aged twenty-two years, entered ward 35, in the Charity Hospital, on March 6th, 1879. She was pale and wasted, and gave a history of frequent uterine hæmorrhages since the 6th December, 1878, when her first child was born. The labor was conducted by a midwife and lasted five hours, proving moderately severe. The placenta was expelled naturally, but was followed by so profuse a flooding as to cause syncope. A physician was sent for, but finding the flow arrested on his arrival, merely left a prescription and withdrew, without making an examination. Vaginal exploration revealed a pediculated pyriform tumor, resting on the perineum. Traced upwards, it appeared to spring from the roof of the vagina. The os could not be detected, nor any

structure which could be identified with the infra vaginal portion of the cervix. Compression of the tumor occasioned pain, and when exposed by a Simms speculum, was of a dark red color, smeared with mucous and blood.

By abdominal palpation the uterus could not be detected, but when the tumor was pushed upwards and forwards, a hard rounded body was felt, somewhat flattened on its upper surface, and with a slight central depression. The tumor was then drawn out of the vagina, and two fingers of the right hand introduced in the rectum were pressed toward the bladder, meeting with no resistance, but on crooking the fingers, and pressing them forwards in the axis of the vagina towards the ostium, there was no difficulty in recognizing the body discovered by abdominal palpation. The case was clearly one of chronic inversion, dating from the expulsion of the placenta. It was judged advisable, to attempt reposition by sustained elastic pressure. A rubber bag was inserted in the vagina and distended with water. It served also as a tampon in arresting the flow which was quite free during and immediately following the examination. This was well borne by the patient and worn until the 12th, six days, being only removed every second day to cleanse the vagina with carbolized water, and replaced. The 12th March, chloroform was administered, and an attempt at reduction was made by Courtey's method. After drawing the tumor to the vaginal outlet, two fingers of the left hand were introduced in the rectum, hooked and separated, so as to press on each side of the inverted cervix. The uterus was then restored to the vagina the fundus pushed in the hollow of the sacrum, and the body seized and pressed obliquely upwards towards the bladder, but whenever the necessary force was exerted, the cervix would slide past the two fingers, steadying it through the rectum so that it was impossible to fix it. Noeggerath's method was next tried, but the uterus proved too unyielding to allow any indentation of its structure. Elastic pressure with the bag was again continued until the 18th, when Courty's method was a second time tried under chloroform, with no better results. The inverted cervix remained firmly contracted, and through

the rectum the index finger could not be wedged in the external os to facilitate its expansion. A larger rubber bag was now introduced, but proved so painful, its removal became necessary in a few hours. As no bleeding followed, it was thought best to let the patient rest, as too continued pressure might produce inflammation. Her condition remained unchanged till April 9th, when she was found much prostrated from a severe hæmorrhage which had occurred in the night. She was anæsthetized with ether, and the repositor of Prof. White, of Buffalo, employed to restore the uterus. Over an hour was spent with this instrument without making the slightest impression on the uterus. To arrest the hæmorrhage the first rubber bag used was again introduced with directions to remove it occasionally, for the purpose of cleansing the vagina. Producing no irritation, its use was continued till the 27th, a period of ten days. The arrest of hæmorrhage had led to marked general improvement. The pulse was stronger and the appetite better. On the 28th, she was anæsthetized for the fourth time, and Emmett's method practised. The right hand introduced in the vagina grasped the uterus about the cervix and body, the fundus resting in the palm. It was then directed forwards and upwards a little above the symphysis and steadied by counterpressure with the left hand. The fingers of the right hand were then slid along the uterus to the vaginal junction and separated, and the fundus pushed up with the palm. The abdominal walls were at the same time made to slide over the inverted cervix, alternating with efforts to dilate the os and roll out the cervix by wedgeng the thumb and forefinger in the depression. This manœuvre was kept up for an hour and a half, alternating with the left hand in the vagina to rest the right, when the cervix yielded, and a partial reduction took place, to about the internal os.

It was decided to postpone any further efforts for the present. An elastic bag was introduced in the vagina to maintain the advantage obtained. Leaving for Atlanta two days after, I did not again see my patient until the 11th of May. She was much improved and had regained strength. Sustained pressure had been kept up in my absence and had produced

but little irritation. On the 13th of May she was chloroformed for the last time. On removing the bag, no change had occurred beyond a greater softness of the uterus. After fully two hours of hard work by Emmett's method, the uterus was reduced, excepting a part of the fundus which formed a projection in the cavity opposite the left cornea. This was finally reduced by a cup-shaped stem pessary introduced in the uterus and fastened by elastic tubing to an abdominal belt. It was removed the next day and the uterus measured, showed a length of three inches. From that moment all hæmorrhage ceased, the strength of my patient rapidly returned and she left the hospital on the 21st May, and has been well ever since.

# Current Medical Literature.

## INTERMITTENT FEVER IN FINLAND.

By Otto Hjelt, Professor University of Helsingfors.

[Translated by Dr. J. P. LEHDE, New Orleans, La.]

In consideration of the marked favor with which at present the general laws for the appearance of diseases are viewed, the restless energy now shown in the investigation of their causes and origin, the active interest exhibited in all that surrounds epidemiology, together with many zealous efforts science now evolves in the search for correct knowledge concerning the natures and relations all diseases may assume, even in the remotest regions, permit the hope to lend a degree of interest in rendering a description of a peculiar process of disease prevalent in that distant and but little known country—our Finland. This country, situated between lat. 59° 48′ and 75.5° and long. 37° 20′ and 50° 30′, on account of its isolation, sparseness of population, scattered over a relatively extensive surface area, its little towns and systematic political administration, may offer not a few important items which might lend definite information towards a knowledge concerning the extension of its epidemics, their peculiarities and relations they hold with those prevailing upon the adjacent continent.

Finland, environed by the waters of the Baltic Sea, Gulfs of Finland and Bothnia, maintains its southern and eastern connection with Russia, by means of a narrow tract of land, situated between the Gulf of Finland and Ladoga Lake. It is

over this slender neck of land that the diseases of the continent have effected entrance into our sequestered country. This has been the route selected by cholera, relapsing fever, smallpox and epizootic. In contrast with this, malarial fever in its advance northward, has pursued another and possibly the more direct route across the Baltic Sea. Not only has the southern coast of this country, together with Aland, long been known to have proved fruitful fields for the devastations of malarial fever, but likewise have always been particularly the sections which have suffered the attacks of this fever, in preference, and indeed primarily by every outbreaking epidemic, yet in the southeastern portion bordering Russia, sporadic cases only of intermittent fever have been known, and even during the existence of general epidemics of this disorder, it never there acquires that universality of extension peculiar to the remaining parts of the country. Hence, we are justified in accepting the conclusion that the course of ingress of malarial miasmata toward the interior of our country, proceeds either from the south or west, *i. e.*, it proceeds from Germany or Sweden. It cannot be affirmed that malarial fever is strictly endemic in Finland, since a series of years may elapse without the occurrence of a single case, even in such localities seemingly most exposed to its influences. Yet the fever, in its intercurrent manifestations, at all times assumes an epidemic character of less or greater extension. Upon nearer investigation of malarial epidemic phenomena in our country, we find, moreover, that Germany, and to a certain extent Sweden, had in every instance previously endured the visitations of this same scourge.

It can readily be premised that Finland ("the land of a thousand lakes"), whose surface area is subdivided by numerous water courses, and which contains countless numbers of larger and smaller inland lakes, would be well adapted for the development, or at least fully well qualified, for the reception of malarial fever. Upon careful reflection, such would seem in reality the case. The explanation of the so common appearance of this fever in our country is assumingly sought for in the numerous shallow-sea lagoons which permeate and deeply indent the shores, in the many swampy meadows and loamy marshes which intricately intersect the surface. As well, is it likewise looked for in the more recently projected and effected drainage of lakes: and, too, in dry summers following the abundant precipitations of a preceding year, occasioning a resultant condition of low tides in numerous large and small inland lakes; while, in contrast, rainy summers and consequent high tides here superinduce re-inundations of the marshy and shallow shores, to the total extinction of intermittent fevers.

At what period malarial fever made its first advent into our country is unknown, but the southern and southwestern (the latter having been the first under cultivation) have for more

than a century been known to have evinced themselves periodically the seat of intermittent fever. Yet we can trace its course of extension step by step towards the interior, and as a matter of interest we find besides, during different epidemics, that this fever steadily advanced to higher and again higher northern regions. This method of fever progression was first noticed during the last decade.

Experience has in our own country established the fact, that when once malarial fever has here found foot-hold, it invariably sojourns several successive years, after which it disappears quite abruptly. Not seldom we here find isolated sporadic cases of intermittent during a preceding year, as it were, in advance, until usually winter begins, when it breaks out with considerable violence, regardless of the mildness or severity of the season. During the months of February and March, and even at times as early as January, it attacks a multitude of subjects simultaneously, acquiring its maximum heighth during the succeeding months of April, May and June, to cease with the true commencement of summer, when, as a rule, a renewal takes place in autumn in the months of October and November. In this manner the disease repeats itself in any given locality within a period of time extending from two to eight years, then leaving an interval, in the course of which scarcely a case is seen.

The first intermittent fever epidemic of dimensions here, known to us, prevailed during the years 1751 to 1758, was confined to the Aland Islands and the southwestern portion of the country. This epidemic was made noteworthy by the remittent type it assumed, and by the fact of it then being for the first time described by ——— physicians (about which more will be said anon). The subsequent epidemics prevailed during the years from 1774 to 1777, 1812 to 1816, 1819 to 1821, 1826 to 1832, 1846 to 1848, and the last, 1852 to 1862. Prior to these epidemics which prevailed in northern regions of Finland, which have been six in one century, malarial epidemics had already existed several years upon the European continent. All of these enumerated above as having occurred in Finland, were antedated by general epidemics of intermittent fever in Germany and to a partial extent in Sweden during the years 1747 to 1748, 1770 to 1772, 1807 to 1812, 1824 to 1827, 1845 to 1848, and 1858. From the nature of these data we are involuntarily forced to accept this evidence in sustaining the conclusion that there must exist some definite force of correlation which apparently controls this order of alternate rotatory or simultaneousness in the different countries. We are thus able to recognize the importance and value of the consideration of all circumstances which bear influential relations, together with whatever else of significance might present itself for accurate and sedulous study; possibly by such a method we might derive

more correct information concerning a knowledge of the laws controlling epidemics in general. What is especially notable of the malarial epidemics of Finland occurring during the last century is, that they seemed altogether confined to the southern portion of this country and Aland Island. It has been previously remarked that the first epidemic evinced no particular tendency to follow a northward direction. It was only that great and widespread epidemic which began in the year 1812, after moderating its intensity during the year from 1817 to 1818, and continued until 1821, is described as having appeared about Wassa (lat. 63° 50′), and Nyslott (lat. 62° 52′). Then followed the next epidemic from 1826 to 1832, which again showed no decided northward extension. It was still at that time customary to send subjects of intermittent fever to the interior for recovery and release from the fever. Toward the close of 1840, we first learn to know the fever in the interior of our country, for instance, about Tammerfors, Kangasala, Hollola, Heinola, St. Michel and other localities.

When malarial fever reappeared in the year from 1847 to 1848, it prevailed not only along the waters of lakes Saima and Ladoga, but urged its direction upward toward the church districts of Laukas and Sacryarwi (about lat. 62° 43′), and from thence proceeded to the shores of the Gulf of Bothnia, while up to that period the northeastern sections of Finland remained exempt.

It was not until the great and widespread epidemic of malarial fever of the years 1852 to 1862 had appeared, that intermittent fever had first taken firm footholds in certain sections of the country, where, hitherto, it had been hardly before known or seen. As a result of this epidemic, the entire south coast became affected: from thence it extended to the regions of the large inland lakes Paijane and Saima, again from thence upward as high as Koupio (lat. 62° 54′), appearing besides over all the medical districts of the interior, assuming at times, a degree of violence, that the stricken, in several localities, have been estimated in numbers to have been fully one-third of the entire population of these. While this epidemic, during its first years, acquired extraordinary severity over the entire southwestern and southern portions, with the same grade of severity, it afterward extended its course to middle, interior and northeast, touching then, though in a milder degree, likewise, the shores of the Gulf of Bothnia, at length, reaching in 1861 Brahstad (lat. 64° 41′), then in 1862 it proceeded to the eastward, and interiorly situated locaiities of Sotkamo and Kajana (lat. 64° 12′). These last named places are situated in the highest known regions in Europe, wherein malarial fever has never before appeared. Hence, the intermittent fever zone extends higher north than has higherto been accepted. According to Hirsh, we find the statement that malarial fever never reaches higher north than the 62° of latitude.

Withal, it remains remarkable, that the disease during these epidemics, confined itself preferably to the southeastern sections of the country, and that it was at all times less extensively manifest and widespread, and in general of much milder behavior than in other sections, where it, at the same time prevailed. Nothwithstanding all these in points of climatological and geological conditions seemed in the aggregate fully identical. The positive observation has here been made that malarial fever has become far more general and widespread in the regions bordering the large inland lakes of Saima and Ladoga since the Werokosas, which form the chain of water connection between these, have been dredged and drained. It is, besides, even affirmed, that intermittent fever has, in localities situated near the shores of the last named become strictly endemic, as in Heinijoka, Jackimvaara and Mohla. In like manner it also conducted itself in the immediate neighborhood of Hallola and Heinola, as also along the shores and margins of Lake Paiane and its tributaries—not, however, until these had been lowered by the dredging and drainage of the cataract of Kalkis, which brought about augmentation of exposed soil surface. Concerning other localities which under ordinary circumstances seem to remain, several years after its advent in 1861, subject to intermittent fever, the church districts of Maxmo near Wasa, as well as the town called Brahstal, may be mentioned.

These epidemics have each evinced entirely differential characteristics. It would seem during every epidemic, a temporary cessation or a visible abatement must needs so modify the fever, in order at a later period to acquire a greater degree of violence, until such time when, as a rule, it vanishes abruptly. The stage of incubation of intermittent fever seems capable of long protraction. The established experience of old is here still valid, that individuals who sojourn in intermittent fever regions during fall are usually not subject to the attacks of the disease until their return home in the following winter or spring. The author was acquainted with the family of a physician, the members of which who, after a stay of two spring seasons on the south coast of the country, became victims of intermittent upon their return home to Tornea; and with two other sporadic cases, these were indeed the only intermittent cases which had there appeared during the last five years. Bergmann, in an interesting pamphlet, relates several interesting examples of the stage of malarial incubation in Schweeden.

It may be said concerning the various types of intermittent fever in our country, that the diurnal and ternary forms predominate during winter and spring, whereas in the fall the fever begins as a tertian or quartan, or sometimes beginning as a tertian, merges latterly into quotidian, and even at times into tertian duplicata. During such summers as are characterized by excessive heat, the elevation of temperature seems so influential in changing

the intermittent form in a manner, that it becomes remittent. This modification sets in, for the most part, in the month of August (now and then, also July), and continues until September has quite begun. This peculiarity is only observed during certain years, and is in the main limited to southern and southwestern portions of the country. Only exceptionally has this form of the disorder manifested itself in the interior of Finland beneath the 61st parallel of latitude. With the incoming of lower temperature, this remittent form of malaria (which not seldom attacks entire familes, and is known to us by the name of August fever), changes into an intermittent of regular quotidian or tertain type. The mortality from intermittent and remittent fever in Finland is not extraordinarily great, but diseased conditions which follow these as sequlæ, in our country so common; are in reality those which are death producing in a multitude of cases, and besides these are the causes which stamp the healths of the more heavily scourged localities with peculiar characteristics in common. Hence, following upon intermittent fever we often here meet anæmia, albuminous dropsies, parenchymatous nephritis, and excessive enlargements of the spleen. These consequent diseases as such do not, however, appear incident to every epidemic, nor are their results entirely general, nor the same in all localities of Finland. The author maintains the opinion that the origin and cause of the amyloid degeneration of the different organs found so commonly in Finland at post mortem examinations, are to be sought for in the influence of malarial poison upon the human organism, and is attributable altogether to this. Also does he deem the frequent presence of anæmia and chlorosis in certain regions of Finland affecting an otherwise so robust and hardy people ascribable to the lamentably injurious operations of the intermittent fever poison.

The epidemic behavior of malarial fever, the theme of this brief sketch, contains for the interest of sanitary relations of our northern Fatherland data of great and important consideration.

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## CASES OF OVARIOTOMY.

Service of Dr. Nathan Bozeman.

Since May last, Dr. Bozeman has performed five ovariotomies, all resulting in recovery. In three of the cases both ovaries were removed. Dr. B. attributes his success (100 per cent. recoveries) to the following points: 1st. If the operation can be safely delayed for a week or more, after coming under treatment, he prepares the patient by administering to her tonics and food as much as she can bear. Iron he considers a most valuable agent in the preparatory stage of the treatment. 2d. The antiseptic method (Lister's) he invariably uses in this, as in all major operations. He thinks his successes are greatly

due to the means thus adopted of preventing peritonitis and septicæmia. 3d. The treatment of the pedicle; whether long or short, he returns it into the peritoneal cavity. The doctor transfixes and ties it, right and left, several times with wax, carbolized, strong silk ligatures, and claims that there is no necessity of using clamps or Kœberle's serre-nœud. 4th. He includes the peritoneum into his sutures when closing the abdominal *incision*, which he never makes larger than is necessary in the median line. Carbolized silk sutures are also used for closing the wound, as for tying the pedicle. Beef-tea, milk and eggs constitute the food given as soon as the patient has fully recovered from the anæsthetic (ether being used for the purpose). If there is a tendency to vomiting, the food is administered per rectum. Quinine and opium the doctor considers of the highest importance in the after-treatment, given in full doses, as being antiperiodic, and a preventive of peritonitis. Should there be any undue elevation of temperature, not controlled by the medication enumerated, Kibbes' cot comes into requisition. The first incision he never makes larger than is necessary for the introduction into the peritoneal cavity of his abdominal spatula, as the doctor terms it (a flexible metallic rod, 10 to 12 inches long, well rounded off, with a triangular-shaped termination at either end, like Nott's vaginal depressor), about one inch long, also well rounded off. The size of the tumor, its adhesions, if there be any, are thus explored with the aid of this spatula. The incision is then enlarged to 4—6, for the purpose of introducing the hand and separating the adhesions, if their presence has been made out, in the mode above described. The next step consists in tapping the cyst or cysts with Spencer Wells' trocar. In multilocular cysts he taps one cyst after the other through the opening made in the first, and so on, the patient being turned on her side. The cysts are thus emptied to a size sufficient to pass his right hand through the abdominal opening into the peritoneal cavity while drawing out the cyst or cysts with his left. The simultaneous use of both hands Dr. B. considers of the most importance while drawing out the cyst. The right hand introduced inside the cavity completes the separation of adhesions that may have remained after the use of his spatula, and also guards against any undue stretching or possible rupture of the intestines, gall-bladder, etc., with which there may be adhesions. The omission of this precautionary measure doubtless had caused many fatal results that may have terminated favorably had this precaution been practised. 6—8 grs. of quiniæ sulphate and twenty-five drops of liquor opii comp. administered per rectum, are the doses of these remedies used from the first for the purposes mentioned. The use of hypodermic injections are being avoided by Dr. B. After ovariotomy, he is of the opinion that on account of the pain thereby produced, the patients abhor them, and thus cause undue nervous excitement. Dr. Bozeman never

uses drainage tubes through Douglas' cul-de-sac, but prefers to draw off effusions by means of tubes introduced through the abdominal opening, reaching down to Douglas' cul-de-sac.

Dr. Bozeman performed his first case of ovariotomy in 1865, also successfully, making in all six cases, wherein nine ovaries were removed. The first operation he published September 1st, 1866, in the *Medical Record*, under the title, "Remarks on the History of Ovariotomy," and the report of a case in which the intra-peritoneal treatment of the pedicle with the silver ligature was adopted with success. As stated above, Dr. Bozeman now uses only waxed carbolized silk, both for tying the pedicle and the abdominal wound.—*The Medical Record*—*The Obstetric Gazette.*

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## AN ABSTRACT OF A PAPER ON THE EXTERNAL TREATMENT OF SKIN DISEASES.

By John V. Shoemaker, A.M., M.D., of Philadelphia.

[Read before the Pennsylvania Medical Society.]

After setting forth the object of the external treatment in skin diseases, the speaker added that either a cure or a temporary relief could be accomplished by either hygienic, medicinal or mechanical remedies, or a proper combination of them. The hygienic measures considered were the condition of the air, the necessity of ablution and bathing, the suitable kind of clothing, and the proper exercise and rest. These topics were discussed at some length, and were followed by the means of reaching disease by local medication. Under this class of medicinal agents were included soaps, poultices, lotions, ointments, dusting powders, oils, caustics and the oleates. All these medicinal agents were carefully considered in their turn, and very many points as to their therapeutic application in cutaneous diseases were derived from the observation and experience of the lecturer. The oleates, preparations that were recently introduced into practice, were said to possess in certain diseases many advantages over ointments. In illustration of this it was claimed that oleic acid possessed solvent powers that were more active than most bases of ointments, and consequently, the chemical combination so formed would be more potent when applied to the skin. Further, that the oleates would not decompose like ointments, and would on this account be more effective, and not act as irritants to the skin. That the oleates prepared either as a five or ten per cent. solution are all, with the exception of the oleate of zinc, in the liquid state, and would, therefore, have a greater absorbent power. They would also penetrate deeper and more rapidly into the tissues than ointments. And lastly, as they are of a liquid condition, with one exception, they would be better suited for application over the scalp, the beard, axillary and pubic regions, or any

hairy parts of the body, in preference to ointments, which frequently mat together the hairs.

The doctor, in concluding this valuable and practical subject, adds: "I have frequently had occasion to apply the oleates as external remedies in the treatment of skin affections, with the most happy results. I may first mention that the oleate of atropia (one grain of the atropia to the ounce of oleic acid) exerts a marked influence in arresting the abundant secretion of seborrhœa, and in subduing high inflammatory action in severe cases of erysipelas. Secondly, I have observed that a 40 per cent. solution of the oleate of mercury, with the addition of a small quantity of olive oil, and scented with some essential oil, is an invaluable application for general thinning and loss of hair. When brushed lightly over the scalp in the above condition, it produces both a tonic and alterative effect upon the part. I have also employed as an application, with great success, a two-ounce solution of the oleate of mercury, of 10 per cent. strength, mixed with an equal quantity of olive oil, in psoriasis and pityriasis, after all the scales and redness have disappeared. The use of this preparation in these affections protects and soothes the hyperæmic skin, and prevents a return of the diseased condition.

Mr. L. Wolf, pharmaceutist and chemist, of Philadelphia, has lately made for me, after many tedious experiments, two additional preparations of the oleates, namely, the oleate of lead and the oleate of bismuth, and I believe I have been the first to use these remedies as topical applications in cutaneous affections. The former of these agents, the oleate of lead, is manufactured by adding liquor potassæ to a diluted preparation of liquor plumbi subacetatis, and the precipitate collected on a filter and dried. The dry oxide of lead should then be dissolved in oleic acid, by means of the water bath. The strength of the solution should be 5 per cent. of lead oxide to the oleic acid, and as free as possible from steric and margaric acids, in order to have it in the liquid form. Should either the per cent. of lead be increased or the solution contaminated by steric or margaric acid, the oleate will be semi-solid, and will not have the same efficient action.

The oleate of lead, if prepared with care, in the manner I have indicated, is an opaque, oily liquid. It is a mild astringent, more readily absorbed than either Goulard's cerate or Hebra's litharge ointment, while it possesses the advantage of neither decomposing or turning rancid. I have obtained remarkably good results from its use in eczema, in rosacea, after depletion of the parts, in burns and in erythema. It arrests morbid discharges, protects the surface, and by its astringent and sedative action allays irritation.

The oleate of bismuth, an oily, brown liquid, the second one of these new preparations of the oleates, is not so difficult to manufacture as the last named, and I will, therefore, omit the

manner of making it. It, however, possesses valuable medicinal effect when applied in pustular eruptions, especially in sycosis and hepatic affections. It is also a most useful remedy in soothing and relieving cutaneous irritation when mixed with an equal quantity of olive oil, and applied in acute specific eruptions, especially in scarlet fever.

The paper also included under this head an account of the oleates of iron and antimony, a full description of all the other medicinal substances that were previously enumerated, and finally, a concise and valuable allusion to friction, compression and blood letting, the mechanical remedies for alleviating and curing cutaneous affections.—*Medical and Surgical Reporter*, June 21st.

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### ERYSIPELAS CAUSED BY SEWER-GAS.

Years ago, the idea that facial erysipelas, or indeed that any variety of this dire disease, could be originated by the entrance of sewer-gas into houses, hospitals, or institutions, would have been condemned as too absurd for credence. Bitter experience, extending over a number of years, backed by the researches of Mr. Pridgin Teale and others, has, however, finally settled the question in dispute. There is now no more doubt that erysipelas is originated by sewer-gas than that typhoid fever is due more often than not to impure water. For instance, at the Old Infirmary Lincoln, which was situated on a hill above the city, erysipelas and sewer-gas were constantly present in the wards. We remember seeing twelve or fifteen cases there some twelve years ago. At that time the hospital drains communicated with the town sewers; and as neither were ventilated or disconnected, the hospital had the benefit of the full pressure of the sewer-gas of Lincoln, because the hospital lavatories and closets occupied the highest points to which any of the sewer connections extended. At Manchester, as we showed some months ago, sewer-gas had demoralised the health of the staff, and had so increased the amount of erysipelas and pyæmia that the surgeons were afraid to perform even the smallest operation. Recently the authorities of a large London hospital proceeded to ventilate the whole of the drains and sewers in connection with their institution. Up to the time these alterations were made, pyæmia and erysipelas had almost driven the medical staff to despair. When the whole of the ventilation was completed, and so soon as the pressure was removed from the traps of the closets and lavatories, no fresh cases were found to occur. For months the hospital wards were free from erysipelas and pyæmia. Suddenly there was a fresh outbreak of these diseases, but it was noticed that the epidemic was confined to one of the surgical wards, built apart from the main building on the pavilion plan, and having only one story. Close investigation proved that the ventilation pipe in this

wing had been stopped up by a careless workman. When this was remedied, all trace of the epidemic disappeared, and for four years this hospital has been almost free from these diseases. Space will not allow us to quote further evidence on this occasion, but any one who is interested in the subject will obtain much useful information from Mr. T. P. Teale, of Leeds, who has made this subject almost a special study. We have been led to make the above remarks because, during the past week, an investigation of great interest has been conducted by the Somersetshire Coroner into the causes of a fatal outbreak of erysipelas at the County Lunatic Asylum. It appears that from December 1878, to May 1879, 23 cases of erysipelas occurred in the female infirmary ward, of which 2 were fatal. Bad smells had been constantly present in this ward, and in other parts of the building for many months past. Several of the inmates had suffered from severe diarrhœa, of which one died; sore-throat, loss of appetite, headache, and nausea attacked most of the patients. On the male side 9 cases of erysipelas occurred, 2 of which were fatal. Here, then, we find 32 cases of erysipelas occurring in a lunatic asylum in five months, of which 4 proved fatal. When we remember the nausea, headache, sore-throat, and general malaise experienced by the other inmates, coupled with the epidemic of diarrhœa and bad smells, it is not difficult to divine that sewer-gas was almost everywhere present throughout the institution. This was suspected by the superintendent, Dr. Medlicott, and so with the aid of the assistant medical officers, Messrs. J. F. Wood and T. S. Sheldon, a searching investigation was made into the drainage arrangements. It was then discovered that none of the soil-pipes were ventilated; most of them were of lead, and several were rat-eaten and riddled with holes. On taking out the pan and syphon of the infirmary closet a very bad smell was present, which was found to be caused by a hole in the soil-pipe, 3 by 1½ inches. This particular soil-pipe had a direct communication with the main sewer. The main drain outside the infirmary ward—where most of the erysipelas cases occurred—had been choked more than once during the year, and on one occasion it was blocked entirely to the extent of three or four yards. In other parts of the building the fall was insufficient, and in consequence the main drain had been stopped several times.

In brief, almost every sanitary evil was found to be present in this ill-fated institution; fermenting sewage was a constant factor, and sewer-gas, conveyed from the sewers to the wards by the rat-eaten soil-pipes, had committed its fatal ravages unchecked and unsuspected for at any rate months, and we suspect even for years.

The moral is plain to read, but difficult to get people to realize. Modern building, whether large or small, especially where they are situated in or near towns, must pour their sewage into the main sewers. As a consequence drain-pipes must, to a greater

or less extent, pass inside the houses, and so a risk of sewer-gas is incurred. What is the remedy? Simply to put an open manhole, with pipe-drains passing through it between the sewer and the house, to put a syphon with ventilator between the manhole and the sewer, and in every case to carry the soil-pipe above the top of the buildings, and to leave it perfectly open at the top. In this way sewer-gas is effectually excluded from houses, a constant draft of fresh air passes down the open manhole, and through every inch of the household drains, and defective traps and rat-eaten soil-pipes may practically be defied. Unless the connection with the sewer is cut outside an inhabited building, and unless every inch of soil-pipe is thoroughly ventilated in the simple way we have described, danger of blood-poisoning exists. With these precautions, simple and comparatively inexpensive as they are, even the oldest buildings may be made not only sweet but perfectly healthy.—*Sanitary Record*, June 6.

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## EPIDEMICS FROM A CHEMICAL STANDPOINT.*

By R. OGDEN DOREMUS, M.D., LL.D.,

Professor of Chemistry and Toxicology in Bellevue Hospital Medical College; Professor of Chemistry and Physics in the College of the City of New York; Chemist of the Medico-Legal Society.

Dr. C. R. Agnew, formerly attached to the New York Hospital, informs me that in consequence of the reception of patients suffering from "ship fever," the north wing of the old building near Duane street became so saturated with disease-breeding agents that it had to be abandoned. This was about twenty-five years ago. The patients were removed from this wing; the windows were kept open for many weeks to accomplish thorough ventilation; the walls and ceilings of the wards were scraped and whitewashed, but in vain! Even the workmen engaged in this cleansing process were taken sick, and one or more died.

So many hospitals, or parts of hospitals, in Europe and in this country have become magazines of disease, puerperal fevers, pyæmia, etc., that many savans urge that the buildings shall be constructed of *wood*, and be burned up every second or third year.

When Pandora, the all-gifted, opened the fabled box and released its pernicious contents, which brought immeasurable suffering upon mankind, "the terrified female at length gained sufficient presence of mind to close the lid; and Hope thereupon was alone secured."

Prometheus, who formed the first man out of clay, kindled his torch from the chariot of Phœbus, with which he blew eternal

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* From Bulletin of the Medico-Legal Society of New York, January, 1879.

flames into the breasts of his creatures. Notwithstanding the ire of Jupiter, he ascended a second time and brought fire from the sun.

The chemist was anciently designated the "philosopher by fire." Perhaps we are justified in saying that to him we should look to antidote, at least, certain of the evils set free by her whom Vulcan made, and intended to be the consort of the son of Iapetus.

By the potency of modern science, Hope has been released from Pandora's box.

We propose to show that spirit can be set at war with spirit, the combat resulting favorably to humanity.

There are no firmer believers in spirits than chemists; for they can make them of every hue of the rainbow, or colorless and invisible, or even black; of varying weights and odors; some grateful to our senses, others nauseating and disgusting; markedly differing in chemical qualifications—one the spirit of life, the vital air; while a host "whose name is legion" exist, and can at will be produced, which are destructive to life.

With but few exceptions, all poisonous emanations from humanity, in health or in disease, are compounds of the most gaseous of all gases, hydrogen.

This lightest of all known elements, when just released from combination with others, or in its "nascent" state, possesses marvellous powers of affinity. Thus, one pound of hydrogen can unite with sixteen pounds of sulphur, and can confer on this solid body its own condition of gaseity. With carbon it yields forms of illuminating gas; with many metals, as iron, zinc, arsenic, antimony, etc., it produces spirit-like bodies, some of which are most poisonous. Such substances as pus, vaccine virus, etc., are compounds of hydrogen; and future chemists will doubtless discover that all disease-propagating gases or germs consist in part of this particular ghost.

If, therefore, we can dehydrogenate them, or rob them of this spirit, we can destroy their power for evil.

To employ a political figure, chlorine gas is the great "ring breaker." It seizes upon the chief of the ring, *Hydrogen*, imprisons it, and breaks up the evil combination.

I have here a tall glass jar, the upper part of which contains sulphuretted hydrogen gas, the lower part water. On bubbling up through the water, this greenish-yellow gas, chlorine, as it reaches the ill-odored gas above, instantly deprives it of its hydrogen (forming with it hydrochloric acid): and you observe the yellow deposit of sulphur on the water, and upon the sides of the jar.

I now present a compound of carbon and hydrogen to this chlorine—black carbon is at once deposited, the hydrogen, by preference, combining with the chlorine.

Should I introduce the most poisonous form of arsenic, viz., arseniuretted hydrogen, to chlorine, the superior affinity of

hydrogen for chlorine would be immediately pronounced; the hydrogen and chlorine would unite as before, and should there be an excess of chlorine, a chloride of arsenic would be formed.

Should chlorine be exhibited to a mixture of sulphuretted hydrogen and arseniuretted hydrogen gases, it would deprive them both of their hydrogen; the sulphur and the arsenic, being in a "nascent" state, would unite, and form a sulphide of arsenic, yellow orpiment.

If a glass rod be dipped in anhydrous hydrocyanic (prussic) acid, which has been liquified by cold, on approaching the rod with its adherent drop to a rabbit, the animal falls dead before the poisonous liquid touches him—due to the inhalation of the vaporous or gaseous acid. If chlorine be presented to this most rapidly fatal of all the spirits, it instantly disarms it of its virulence by robbing it of its hydrogen.

If equal volumes of hydrogen and chlorine be placed in a glass flask in a dark room, on exposing them to the sunbeam they combine with explosive violence.

Hence we feel warranted in the assertion that if chlorine gas can be generated in great volume, and especially with the aid of moisture, which facilitates its action, it can dehydrogenate any of the virulent spirits which result from vegetable and animal decomposition.

In 1849 I was consulted by one of our largest transatlantic steamship companies as to the best method of disinfecting one of the state-rooms, which had been occupied by a passenger in whom small-pox developed a few days after leaving Liverpool.

The liberal generation of chlorine gas in said compartment accomplished the desired result.

In the summer of 1865 I had the pleasure of meeting on Broadway Prof. Lewis A. Sayre, M.D., then Health Physician to our city. He announced that the steamship *Atalanta* had arrived at Quarantine from Liverpool with a large number of steerage passengers; that sixty of them had died of cholera! He requested me to accompany him to the Mayor's office to discuss what should be done.

I expressed to Prof. Sayre and Mayor Gunther that chemical agents, *if liberally employed*, could decompose and destroy all these disease-spreading agents; that ships could be disinfected in twenty-four or forty-eight hours better than by a detention of forty days for ventilation; that modern chemistry would enable us to almost abolish *quarantine* by shortening the customary delay which its name involves.

*Carte blanche* was given by the Mayor.

Accompanied by my assistant, Dr. A. W. Wilkinson, a visit was paid to Dr. Swinburne, then Health Officer at Quarantine, who gave his cordial co-operation.

Among the most efficient agents with which we successfully disinfected the ship referred to as freighted with disease, and many other vessels which subsequently arrived from dangerous

ports, was chlorine gas. Rolls of sheet lead were taken on board the vessels, with hundreds of pounds of common salt and peroxide of manganese; also carboys of sulphuric acid. The lead was unrolled, turned up at the edges, so as to make receptacles eight or ten feet in length and four feet in breadth. Into these troughs the salt and the manganese were mingled with water, forming a black mud, and when all were ready to leave the hold or part of the vessel where the troughs had been placed, a carboy or more of sulphuric acid was poured into the aforesaid mixture.

Huge volumes of chlorine were immediately given off; hundreds of pounds of this greenish-colored gas arose and diffused in every direction. The hatches were "battened down," and this potent element was left to accomplish our purpose, viz., to dehydrogenate, and thus decompose, the death-breeding gases and germs.

That this mode of treatment was eminently successful, was demonstrated by the fact that not a single case of cholera appeared in this city, or the cities connected with this port, or the section of our country to which the emigrants passed. So complete was the disinfection that not only were the ships purified, but also the articles of merchandise from infected ports, as well as the baggage of cabin passengers and emigrants. In previous years cholera was known to have been developed in the interior of this State from boxes and trunks containing household articles which had been brought from parts of Europe where the disease existed.

Who can estimate the loss of life and property had cholera been introduced into New York, and thus probably have been disseminated through the country?

I am happy to learn that this process has been continued by my quondam college-mate, Dr. S. Oakley Vanderpoel, the present Health Officer at Quarantine, to whom our city and the country is indebted for his faithful and efficient services.

Three years ago I was asked by the present Commissioners of Charities and Correction to undertake the purification and disinfection of the surgical wards of Bellevue Hospital. In certain wards pyæmia had proved very fatal. The *heroic* chlorine treatment (if I may use this expression) was adopted for the wards, and ozone for the water closets.

Strips of paper were pasted over the crevices around the windows and doors. Troughs of lead, as before described, were brought into the ward; a sack of salt was emptied into them, and about an equal weight of black oxide of manganese. These were intimately mixed, by stirring them with water, by means of wooden shovels. A carboy of sulphuric acid was emptied into pitchers, basins, and other vessels, and placed by the sides of the troughs. The floors were then wetted with water, and steam was allowed to escape from the heaters until the condensed moisture had dampened the ceilings and was trickling down the walls.

Half a dozen assistants groped their way with me through the mist to the sides of the most remote trough; each of us simultaneously poured out the contents of the vessels filled with sulphuric acid upon the salt and manganese, repeating this operation at the second trough. We then hastily made our exit, and nailed up the door, lest any one should accidentally enter; for the amount of chlorine thus liberated would have proved fatal to any one who might have ventured into its presence.

The next day the windows were opened from the outside, and after an hour or more of ventilation, we entered, and having first filled the earthen vessels with sulphuric acid, we stirred up the mass resulting from the previous day's reaction, then added this second dose of acid, and again rapidly retreated and secured the door.

In the first ward, where pyæmia had proved most fatal, the contents of the troughs, chiefly sulphate of soda and sulphate of manganese, were removed, and a second sack of salt, with its equivalent of peroxide of manganese, were mixed in them with water, and the full complement of sulphuric acid poured into the mixture, after filling the compartment with steam as before.

The walls and floors were then washed and scrubbed, after a third liberal treatment with chlorine was completed, twenty-four hours having been allotted for each dose of chlorine to fulfill its fell purpose, viz., to permeate the *plaster walls*, and the *very stones* of the hospital in search of its prey, the foul, death-dealing gases and germs that lurked in these hiding places defying all ordinary methods of removal.

After a day's ventilation and drying, the disinfection was considered complete. It was a pleasure to pass from the adjoining wards into the purified one: the mawkish flavor, so common to even the most cleanly hospitals, had entirely disappeared.

To test the efficiency of the chlorine gas, the cotton sheets were left on some of the beds when the first charge was employed. The next day these sheets were so tender that the least touch sufficed to crumble them to pieces. The woolen blankets were disinfected, but uninjured.

All the other surgical wards in the north wing of Bellevue Hospital were treated twice with a most liberal charge of chlorine. Estimating from the quantities of the chemicals employed, between *two* and *three tons* of chlorine gas must have been produced by the reaction!

The method described for generating chlorine is preferable to the employment of hydrochloric (muriatic) acid and the binoxide of manganese, because of the more copious yield of gas, as may be shown by the following formulæ:

$$2(SO_3\ HO) + MnO_2 + Na\,Cl =$$
$$SO_3MnO + SO_3NaO + 2(HO) + Cl.$$

Here all the chlorine is liberated from the common salt (chloride sodium), the sulphate of manganese and the sulphate of soda remaining; whereas, by the use of hydrochloric acid, only one-half of the chlorine is discharged as a gas: thus,

$$2(H\,Cl) + MnO_2 = Mn\,Cl + 2\,(HO) + Cl.$$

the other portion combining with the manganese to form the chloride of this metal.

The first process generates heat by the action of the sulphuric acid and the water. This facilitates the diffusion of the heavy gas.

In consequence of the very pronounced odor of chlorine gas many persons, including physicians, and even those who have written on the subject of its applicability as a disinfectant, err in regard to the *quantity* that should be relied on. One distinguished physician narrated to me that he signally failed. He placed some manganese in a *saucer* and poured hydrochloric acid upon it! Need we wonder at the result?

In a recent medical journal sent to me a description of modes of disinfection is given; under the head of chlorine the writer says, "Place four ounces of manganese on a plate and add hydrochloric acid to it!"

There are incidental advantages in resorting to sheets of lead as a suitable receptacle for the chemicals. Troughs of any length can be easily and quickly made; and after the residues of the reactions have been removed they can be rolled up into a compact form. By unrolling them and turning up the edges they can be used again, and as often as desired. The sulphuric acid forms an insoluble sulphate of lead on the inner surface, so that the metal is not perforated or destroyed.

The water-closets connected with the surgical wards of Bellevue Hospital were deodorized and disinfected by sprinkling in the urinals, for a number of consecutive nights a mixture of the manganate of soda and the sulphate of magnesia.

In contact with water these salts produce the *permanganate* of soda, and at little cost. The reaction is thus expressed by symbols:

$$3(Mn\,O_3\,NaO) + 2(SO_3\,MgO) =$$

$$(Mn_2\,O_7\,NaO) + MnO_2 + 2(SO_3\,NaO) + 2(MgO).$$

Permanganate Soda + Binox: Manganese + 2(Sulphate Soda) +2(Magnesia.)

In contact with the impurities of the urinals the permanganate of soda decomposes, yielding a most active form of oxygen, nascent oxygen, or ozone, which at once deodorizes and disinfects.

This mixture has no unpleasant flavor such as characterizes carbolic acid, cresylic acid, chloride of lime, hypochlorite of soda (Labarraque's solution), and many other disinfectants. It may be constantly applied without annoying the patients of

the sick room or hospital. It should be kept by the side of the urinal, and the mixed powders should be thrown into the vase or urinal each time it is used.

The liberal generation of chlorine gas has been repeated at Bellevue every few months, and with the happiest results. The most sanguine anticipations could not surpass the statement made by Dr. James R. Wood, the oldest surgeon of the hospital, that "since this thorough purification no case of pyæmia has originated in the surgical wards!"

A few years ago the Commissioners of Charities and Correction had under discussion the advisability of stripping the walls of Bellevue and relining the edifice with wood and plaster. I doubt if even this expensive procedure would have accomplished a much better result than was obtained by scraping the walls of the old New York Hospital, for the very stones were doubtless impregnated with poison.

If we ignore chemistry, the ancient Hebraic process is the only efficient one—to "break down the house, the stones of it, and the timber thereof, and all the mortar of the house, and carry them forth out of the city into an unclean place:" unless we construct our hospitals of *wood*, and burn them as occasion demands.

The latter method would effectually carry out the signification of the word *purify*—the treatment by fire.

But in a large city we need hospitals distributed within its precincts. The application of the torch might accomplish more destruction than anticipated, unless hospitals were in the outskirts of our cities. There are seventeen hospitals in different parts of Paris.

To transport patients several miles diminishes their chances of recovery, especially "accident cases."

The explosion of the Staten Island ferry-boat *Westfield* at the South Ferry, shortly after the demolition of the old New York Hospital, demonstrated the necessity of a commodious hospital in the lower part of the city. Many of the scalded and mutilated victims of this horrible accident had to be conveyed a distance of three miles to Bellevue!

From 10. A. M., until 3 o'clock in the afternoon, the major part of the active brains of New York is in the lower extremity of our city. Accidents may occur to the rich man as well as to his hired laborer. Some of our wealthiest men have died in their down-town offices. Four years ago one of the mayors of New York died in the City Hall. Medical men of distinction were miles away. Had there been a hospital down town, physicians of experience could have been commanded instantly.

Some may reply, We have provided a few beds in the lower part of the city where the sick and injured may be temporarily cared for. But those in attendance are mostly young men, and although of undoubted ability, have not enjoyed the years of practical knowledge which might be preferred.

If a large hospital was established, say on the Battery, the most eminent surgeons and physicians of our city would be competitors for the important positions, and thus at all times, assuredly of the day, their services might be commanded. The attention of our citizens, and of the Commissioners of Charities and Corrections, should be called to consider the advisability of some such provision.

One of the members of the Board of Trustees of the New York Hospital, distinguished for his deep interest in caring for the sick, and whose liberality has recently been expressed in the erection of a surgical pavilion at Bellevue, favored me, at my office, shortly after the completion of the elegant new hospital in Fifteenth street, between Fifth and Sixth Avenues. The purpose of the visit was to solicit the details of the chemical treatment in the purification of Bellevue Hospital.

He stated that attacks had been made in the public journals upon the folly and extravagance of the Board in constructing the elaborate and expensive building, which at any time, and even within a few months, might become in part impregnated with disease, so as to be unfitted for the reception and treatment of patients; and like the north wing of the old New York Hospital in Broadway (just above the City Hall Park), would have to be abandoned, and this in the face of the views of many European and American physicians, that hospitals should be of wood, and burned every second and third year.

We feel justified in claiming, as the result of personal experience, that the ancient destructive methods may be abolished; that by resorting to the active and diffusive chemical agents, in *sufficient quantities*, not only may clothing and goods be thoroughly disinfected, but that ships, and even houses and hospitals of solid masonry, may be speedily and completely purified.

Chemistry, *heroically* employed, may save nations from the miscalled "visitations of Providence," which are really resultants of *improvidence*, ignorance and neglect. Thousands of lives may be spared; innumerable sufferings avoided; the retardation of commerce, by the forty days' delay at our ports, prevented, which involves millions of money; our dwellings and commodious hospitals kept in a fitting condition for those enjoying the blessings of health or suffering from accident or disease.—*Sanitarian*, July, 1879.

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## RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

By D. H. Hayden, M.D.

*On the Use of Benzoate of Soda in Diphtheria.*—Dr. Ludwig Letzerich.* The author's studies of the above remedy in

* Berliner klinische Wochenschrift, February 17, 1879.

diphtheria were instigated by the experiments carried out by Graham in the laboratory of Professor Klebs, in Prague. The cases subjected to treatment, in addition to numerous sporadic ones, embraced twenty-seven, which came under his care during an epidemic of the disease in Berlin. Of these, three were adults, and the remaining twenty-four children; and eight were severe cases, with extensive local affections and dangerous general symptoms. None had been subjected to any other treatment, whether local or internal. There was a fatal result in only one case, a child, who had been much run down in health before the attack, who was badly nourished, and who had a disposition to trouble of the respiratory organs. Of the eight severe cases three were boys and five girls, and their ages were between five and eight and a half years. In all these cases there were high fever, delirium, retention of urine and of fæces, existing often befo e the extensive local affection had made its appearance. In the blood there were found numerous bacteria and plasma corpuscles (*Plasmakugeln*), from which, by cultivation in veal broth, very large colonies of micrococci became developed.* This development, in the chambers for cultivating the micrococci (*Kulturkammern*), at a temperature of 86 degrees to 95 degrees Fahrenheit, was completed in a few of the cases before the extensive exudations upon the tonsils and pharynx had made their appearance—a proof that the general infection often takes place a long time before the localization of the disease makes its appearance. This is well illustrated in typhoid fever.

What is the action of benzoate upon soda in diphtheria? It has been shown, the author alleges, by the experiments of Graham, that certain quantities of this remedy, when introduced into the system of an animal infected, will in a certain time put a stop to the "vegetation of the diphtheric poison," the amount necessary for this purpose being determined by the weight of the body. In this manner, accordingly, the dose for children and adults is regulated, and it is claimed by him that, up to the present time, there is no other remedy that exercises so rapid, continuous and therapeutic an effect upon the development and course of the diptheritic process as benzoate of soda. His formula for infants under one year old, is:

| | | | |
|---|---|---|---|
| R. | Sodæ benzoat. pur. - - 5.0 | or | Sodæ benzoat. pur. - - ℥i. |
| | Aquæ destillat., | | Aquæ destillat., |
| | Aquæ menth. ppt. - - aa 40 0 | | Aquæ menth. ppt. - - aa ℥i. |
| | Symp. cort. aurantii - 10. | | Symp. cort. aurantii - - ℥ij. M. |
| S. | One half tablespoonful every hour. | | |

The dose for children between one year and three years of age is given as seven to eight grammes (two drachms) dissolved in three and one half ounces of the vehicle, the whole amount being given in the course of the day in half to one

* Vide Archiv für experimentale Pathologie und Pharmakologie, von Klebs, Schmiedeberg, und Naunyn, Band IX., Heft 3 und 4.

tablespoonful doses. For children between three and seven years of age eight to ten grammes (two to two and one half drachms) are given in the same way. Those over seven years years old take ten to fifteen grammes (two and one half to four drachms), and for adults the dose is fifteen to twenty-five grammes (two and one half to six drachms) daily in four and one half ounces of the vehicle.

An unpleasant after-effect of the medicine has never been observed, not even in young infants.

The diphtheric membrane was treated with benzoate of soda in powder, being sprinkled on or applied through a glass tube or quill. There is no slough formed, and thereby the danger is averted of its acting as a firm covering under which an energetic development and growth of the organisms can take place.

The insufflation was made every three hours in severe cases; in the milder forms two or three times daily. With older children a simple solution of the salt (ten to two hundred) was used as a gargle.

The author cites the following case as a typical illustration of the way the medicine acts upon the general infection, the effects being quite uniformly noticed after twenty-four to thirty-six hours:

W. L., eight years old. Treatment began on June 19, 1878, the second day of the disease:

| | | | |
|---|---|---|---|
| June 19th, | evening, | 106.3° Fahr. | pulse 136 |
| " 20th, | evening, | 102.2 " | " 124 |
| " 21st, | morning, | 101.6° " | " 114 |
| " " | evening, | 100·4° " | " 112 |
| " 22d. | morning, | 99.5 " | " 104 |
| " " | evening, | 98.6° " | " 104 |
| " 23d, | | normal, | normal. |

In the above case the membrane on tonsils was very extensive, and was powdered. On the second day of the disease it became circumscribed, thinner, and somewhat more transparent, and on the 5th had nearly disappeared. The medicine was continued a few days after this date, but at longer intervals, and the small exudation spots were powdered twice daily, until the last remaining portion had completely disappeared on the eighth day of the disease.

The records of many other children, equally severely affected, and of different ages, gave nearly the same results as the above, and the effects of the medicine were always the same. The author recommends this remedy highly in gastric and intestinal catarrh, particularly of infants, and states that at times the results are surprising in these latter cases. He recommends it likewise in (*Mycotischen*) catarrh of the bladder, and firmly believes in the statement of Klebs (to whom we are indebted for the employment of benzoate of soda), that it is to be recommended in all diseases which originate by infection.—*Boston Medical and Surgical Journal.*

## NEW REVELATIONS IN SANITARY SCIENCE.

It is highly gratifying to the philosophic mind to be relieved from groundless fears; and after the hullabaloo that has been raised by heedless sanitarians about noxious effluvia, foul drinking water, offensive sewer gas, and the exhalations of decaying animal and vegetable matter, it would surely be a relief to all to discover that this alarming talk has little foundation in fact, and that we can sleep in a room impregnated with the air from a sewer, and drink the fluid from that same channel, without risk to our health. Here were certainly a matter for congratulation.

Several recent writers strive to carry us to this conclusion.

From one of them we have already quoted in this journal—Dr. George Hamilton, of this city. In the last volume of the *Transactions* of the College of Physicians of Philadelphia, he has a paper on the relation of sewer gas to typhoid fever, an abstract of which we gave at the time it was read (see *Reporter*, vol. xl., page 384). He endeavors to disprove the assertion that sewer gas is the most potent and common cause of typhoid fever, in this or any city; indeed, he considers any such view "utterly untenable," "in direct antagonism with facts;" and, in fact, argues that sewer gas has nothing to do with typhoid. Nor is he willing to credit the opinion that the effluvia arising from decaying vegetable matters is a source of the disease.

When it is considered that the typhoid condition is closely akin to typhoid fever, that it often can hardly be distinguished from it, and must have the same or a closely allied cause, the exclusion of sewer gas and decaying organic matter from its etiology assumes a wide and most important interest for the surgeon as well as the physician.

Diphtheria and scarlet fever have been also attributed to these same agencies; but several writers have recently decried this with great vehemence. They point to the intense severity of these maladies in secluded farm houses, in well-drained mountain hamlets, in windy and dry upland villages. It is claimed that diphtheria is often more fatal in such localities than in the most densely populated blocks of down town, New York; hence, that this malignancy has nothing to do either with foul air or impure gases.

Much stress has been laid on the importance of pure drinking water, especially that it should be free from organic, particularly decaying matter. But here comes Dr. Rudolf Emmerich, one of those redoubtable Germans who are always found ready to sacrifice themselves on the altar of science. He determined to put the matter to the test, and as he was, like Cæsar, not afraid to

> "Drink from the gilded pool
> That beasts would cough at,"

he selected two of the dirtiest open ditches in Munich, and made their undiluted contents his daily beverage, to the amount

of a quart or more. He first examined the water chemically and microscopically. It was to the eye dirty, and to the nose foul smelling, and that to such a degree that it was difficult at first to avoid involuntary vomiting after taking it. It contained fragments of garbage, dirty rags, hairs of men and beasts, particles of feces, etc., as the trench was the general receptacle of privies, dirt carts, dead cats, and the like.

For the first day or two after beginning the use of this water, Dr. Emmerich suffered from headache, loss of appetite, catarrh of the bowels, coated tongue, and other symptoms of a light gastritis. In three days' time all these symptoms disappeared, and for a month, during which he continued to drink the water, he was as well as ever. Next, he persuaded two convalescents in the hospital to try it. One had been suffering from constipation, headache, loss of appetite and muscular pains; after a few days' use of the ditch water, *he decidedly improved.* The second had been long a victim to dilatation of the stomach and dyspepsia. He was not the least injured by the free consumption of the putrid fluid. Finally, about a month after the doctor had ceased his experiments, he happened to be attacked with a sharp gastro-enteritis. He rejoiced at such an opportunity of testing his ditch water, and therefore, without using any remedies, he began to drink it freely. In a few days he was well!

From these experiences (which will be found in the *Wien-Med. Blatter*, No. 6, 1879) Dr. Emmerich concludes that "the use of the most foul and putrid drinking water produces no injurious result on the system in health; and even existing affections of the intestinal canal are not in the least aggravated by it."

What have the sanitarians to say to these facts and arguments? Is our dread of uncleanliness, after all, a mere figment of the imagination? Shall we give up sewer traps, and close drains, and water filters, as useless expenses?

For ourselves, we confess we are far from satisfied that they are needless; and we still lean to the opinion that pure air and water, a clean skin and a calm conscience, are all efficient measures in preserving health and prolonging life.—*Medical and Surgical Reporter*, September 6.

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## OBSERVATIONS ON THE DIGESTION OF MILK.

By E. F. Brush. M.D., Mount Vernon, N. Y.

Milk may be divided into two distinct varieties, according as it is the product of cud-chewing or non-cud-chewing animals. This is a distinction to which I think sufficient attention has not been previously drawn. The former class—that of the cud-chewers, to which of course the milk of the cow belongs—contains a variety of caseine which coagulates into a hard mass under the action of the digestive ferment, or during the lactic

ferment. This coagulation takes place in the natural process of digestion with the calf.

During the summer I had a calf which I tied in a stable out of reach of any food, and gave it nothing but fresh milk from its mother; half an hour after the ingesta of milk I always found it chewing the cud. After diligent inquiry I have been informed that the same takes place with the sheep and the goat, the other domestic ruminant animals. We may from these facts explain the difficulty experienced by the human stomach in digesting the milk of ruminating animals.

The other variety of milk—that given by the non-cud-chewing animals, to which the human, equine and canine races belong—does not, under the action of rennet or acids, coagulate into the hard mass we find in the cow's milk, but coagulates into small granular or flocculent masses, easily diffusible.

This fact explains very simply the advantages of *kumyss* prepared from cow's milk over the milk itself, in the artificial feeding of children. In *kumyss* the caseine is—if we may be allowed so to express it—practically regurgitated and chewed; i. e., having been coagulated it is resubdivided, and incapable of being coagulated under any acid or ferment.

There are other differences in the various kinds of milk which tend to modify the conditions under which it digests. For example, it is a well authenticated fact that the amount of caseine in milk is always in inverse proportion to the amount of sugar contained in it; the milk of the cud-chewers contains the smallest amount of sugar and the largest amount of caseine, while the milk of the non-cud-chewers contains, on the contrary, the largest amount of sugar and the smallest amount of caseine. Even in the case of cow's milk, in varying conditions of the animal's health, as the proportion of caseine diminishes, that of sugar increases.

Another fact, too, deserves notice. The less sugar a given variety of milk contains, the more rapidly does lactic fermentation take place and consequent putrefaction follow. Now, a milk containing a large amount of sugar will set up alcoholic fermentation under conditions the most favorable for lactic fermentation in a milk containing a small amount of sugar. The bearing of this observation is that putrefaction follows lactic fermentation, whereas alcoholic fermentation precludes to a certain extent any form of putrefaction.

Here we have another reason for the beneficial effect of *kumyss* in the artificial feeding of children, for in *kumyss* the sugar is all changed into alcohol and its associates. There is no doubt at this time that alcohol, when properly presented, is a hydro-carbonaceous food.

I will now relate in this connection an experiment I performed on myself, and which proved that the alcohol contained in *kumyss*—say 3 per cent.—is all destroyed in the system.

I subsisted for a number of days on *kumyss* exclusively, tak-

ing eight bottles a day. During the time I was thus subsisting, I saved all the urine, which I distilled and redistilled, and tested for alcohol. But, although I used the best known and most delicate tests, I failed to discover the slightest trace of alcohol.

After this I took eight bottles of *kumyss* and distilled a few ounces, and drank the distillate; in four hours I discovered alcohol in the urine. This simple experiment shows, as we have said, that alcohol as contained in *kumyss* is destroyed in the system, but the same alcohol, when it has undergone the process of distillation, is eliminated as alcohol.

In speaking of the difficulty presented in the digestion of cow's milk, I have mentioned *kumyss* as being the only perfect substitute for milk, as it contains all that is valuable in milk without the indigestible coagulum. I have under consideration other means of preparing cow's milk to render it suitable for children's food, so that it may be prepared by those who live in places where *kumyss* can not be procured, and I may hereafter communicate to the profession the results of these investigations and experiments.—*N. Y. Medical Journal*, Sept. '79.

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## CHRONIC RHEUMATIC CARDITIS.

By N. S. Davis, M.D.

In purely chronic cases I have, for many years, used different preparations of the cimicifuga, the phytolacca, and the stramonium, either singly or combined in various proportions, and with considerable benefit. Nearly two years since, my attention was called to the use of the senecio aureus as a remedy of value in relieving chronic rheumatic irritation in any of the fibrous structures of the body, and especially for removing that state of morbid sensitiveness we call the rheumatic diathesis. I had under treatment at the time a delicate girl, nine years of age, who had been attacked four years previously with severe acute rheumatism, that involved in its progress nearly all the articulations and the left side of the heart. After a protracted period of suffering, she recovered, leaving a well marked rough bellows murmur over the left cardiac region, with the usual embarrassment on taking active exercise. She had continued extremely sensitive to atmospheric changes, and had renewed attacks of rheumatic fever, with swelling and pain in some of the articulations, and increased cardiac disturbance, two or three times a year, in spite of the most vigilant precautions. She spent one of the winters in Florida, but had a renewal of the rheumatism in a few weeks after her return. It was at this time that a friend of the child's father told him, if he would get some senecio aureus root, put it into whisky, and give the girl some three times a day, it would cure her. The positive assurances of the friend evidently made an impression on the father's mind, and induced him to call my at-

tention to the matter. On referring to such books as were at hand, I found the article named in the list of secondary articles of the Materia Medica, with no other account of its virtues than the statement that it was reputed to possess moderate diaphoretic and diuretic properties. Thinking that it would do no harm to gratify the father's desire to try the remedy, and finding no preparation of it in the drug stores except a small quantity of fluid extract, the little patient was put upon the use of this, commencing with 0.3 C. C. three times a day. Subsequently some fresh root was procured, and a perfectly reliable fluid extract prepared for her use. This dose was gradually increased to 0.6 C. C., and its use was continued faithfully seven or eight months. No other remedies were used, and no changes were made, either in hygienic management or residence; but from the time she commenced to take the remedy, until the present time—nearly two years—she has not had the slightest return of rheumatic irritation, and has slowly increased in flesh and strength, and is now able to exercise quite freely with her playmates. There is still an audible murmur over the left side of the heart, but much less rough and harsh than two years ago. At no time during the use of the remedy has there been observable any active disturbance of the functions of the system. From the first, her appetite began to improve, and the functions of the skin, kidneys and bowels have been performed with entire regularity. Only once has there been need of medical interference, and that only for two or three days, on account of slight sore throat.

Of course the result in this case, standing alone, would prove nothing. The use of the remedy and the subsequent change in diathesis might be a mere coincidence. But during the past year or eighteen months I have prescribed the remedy in the form of fluid extract in a large number of cases, and with sufficiently favorable results to justify you and the profession generally, in making a thorough investigation concerning its value and remedial properties.

While on this subject, there is one important error concerning which I wish to caution you, and that is, the tendency, when treating chronic diseases, and especially when endeavoring to correct morbid diathesis or constitutional conditions, to change remedies too often. We are apt to forget that most of these conditions are the result of slowly acting causes, and involve alterations in the adherent properties of the tissues that can be changed back in the direction of health only by slow and persistent influences, both of a hygienic and medicinal character.

The senecio aureus is a plant that grows in sufficient quantities throughout the northern belt of the United States, and is familiar to medical botanists.—*Chicago Medical Journal and Examiner*, September, 1879.

### BEEF AND ICE CREAM.

The following is an article of dietary importance. I believe it originated with me. It is simple, novel and speaks for itself so far as its efficaciousness is concerned. I combine ice cream and beef so as to make a homogeneous mass. These are about the properties: 120 grams cream, 30 grams sugar, 8 grams ext. vanilla, 8 grams beef juice, ("Johnston's" I have generally used, but the juice squeezed from beef steak is just as good). Any confectioner can make it extemporaneously (or within an hour) or it can be made at home at short notice. It has done me excellent service.—James I. Tucker, M.D.—*Chicago Medical Journal and Examiner*, July, 1879.

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### CUPRUM AMMONIATUM IN NEURALGIA OF THE FIFTH.

(*Bulletin de l'Académie de Médicine.*) (Seance of 1st April, 1879. By Dr. Fereol.) Dr. Féréol has obtained marked and sometimes instantaneous relief from the exhibition of cuprum ammoniatum, in obstinate cases of neuralgia of the fifth pair of nerves. He does not claim to have found an infallible remedy, but modestly asks for it a trial in this troublesome affection. In one or two cases the patients who were relieved had, previous to its administration, been deprived of sleep for weeks. The commencing dose should vary from gr. 0.10 to 0.15 a day, gradually increased to gr. 0.30 or even 0.50, carefully watching the susceptibility of each individual. It is best administered in pills or capsules, and the daily amount above indicated should be divided into eight or ten parts, to be taken at intervals, preferably with food. It is important to continue the treatment for twelve or fifteen days after the cessation of pain. —*Chicago Medical Journal and Examiner*, July, 1870.

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### VENTILATION OF HOSPITALS.

I was recently called professionally to attend the veteran ventilating engineer, Prof. J. Wilkinson, of Baltimore, Md., who has spent the past three years in the Northwest in supplying, for a variety of purposes, the system known as sub-earth ventilation, which has of late been introduced in Prussia and other countries of Europe. The system has been in use in this and adjoining States more than two years, and is said to have proved *par excellence*. I have frequently heard of the remarkable results attained by its use, but had not familiarized myself with the detail of construction necessary, or the scientific principles involved in the system, until I formed the acquaintance of Prof. W., the inventor of it.

It has been mainly used, hitherto, in structures for the manufacture of dairy products, for which it has proved to be admirably adapted.

Confidently believing, as I do, that the system is superior

to any other for hospital buildings, I wish to present it to the attention of the medical profession, for which I desire to avail myself of the columns of the *Record*, believing that to be the most useful and efficient medium of laying it before the largest number of the most intelligent medical practitioners.

I will describe the appliances used, and the results attained, which latter, I think it will be conceded, are just what constitute essential characteristics of all structures for human occupancy, and more especially of those that are to be the houses of the sick and demented.

Buildings are supplied with air by means of a subterranean air-duct placed in a stratum of earth in which the temperature is uniform perpetually. Both entrances of the duct are open: one to receive atmospheric air from the most salubrious point available, through a well or shaft with the bottom of which the duct connects; the other to discharge and distribute said air to all the apartments to be tempered and ventilated.

The supply of air is regulated by adjustable valves, and any required volume of it may be supplied to a building at the same temperature as that of the earth in which the duct is placed.

This uniform temperature in the air supplied is unaffected by the extremes of temperature in the external air, and is perpetually about 50° F.

The walls of the duct being of a lower temperature than that of the outer air in warm weather, when air is liable to contain an excess of humidity, it is condensed on the walls, and is absorbed by the clay bottom with which the ducts are constructed, and the air is delivered to the building in an anhydrated condition.

In case it is desirable to retain any of the humidity with which the air is charged, this is secured by the use of a plurality of ingress shafts properly distributed along the line of the supply-duct, by the adjustment of valves in which air properly tempered and with variable degrees of humidity may be obtained. Additional devices for deodorizing and disinfecting to a still greater degree than that secured by the clay surfaced bottom of the duct have recently been invented and tested by Prof. W., and found to possess superlative potency, and their hygienic value is believed to be so great that an application for a patent for them will soon be made.

The walls of the duct being moistened by the condensation of vapor on them, they effectually arrest all dust, pollen, and motes floating in air, transmitted by the duct as it is now used. The duct has invariably proved to possess the power of removing ozone from the air.

Dairy scientists contend that ozone annually occasions a loss to the dairymen of the United States and Canada of hundreds of thousands of dollars. The effect of it on milk set for butter-making is, I am reliably informed, so disastrous that it has the effect, every summer, and several times during the same season,

to reduce the amount of cream obtained from a given quantity of milk from 35 to 60 per cent. I believe that a substance in air, capable of precipitating acidification and the action of ferments to such a degree as does ozone, must materially augment the insalubrity of said air, and that means for its removal from air will add an invaluable factor in methods for securing the greatest salubrity in the atmosphere of human habitations.

This system of ventilation is in use in central Mississippi, and is said to be very satisfactory.

It has occurred to me that it might prove well adapted to ventilating quarantine and yellow fever hospitals, for which I hope it will be tested ere that unwelcome visitor again appears in its favorite localities. C. M. Johnson, M.D.

—*N. Y. Medical Record*, May 10, '79.

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## SUDDEN DEATHS IN DIPHTHERIA.

By A. W. Perry, M.D.

One of the most terrible and uncertain features of diphtheria especially, and to a less extent also of other cachectic diseases of children, is the frequent occurrence of collapse and death after the most serious symptoms have disappeared and the patient has apparently entered into convalescence. It has been discovered by MM. Mothien and Urbani, in 1874, that when the blood contains 70 per cent. or upwards by volume of carbonic acid it coagulates spontaneously in the blood vessels. The normal volume percentage is from 20 to 30 per cent. This was ascertained by an analysis of blood drawn from a man who was affected with a spontaneous thrombus. In diphtheria a high percentage of carbonic acid exists in the blood, and determines the formation of blood clots in the heart, pulmonary artery, or any of the systemic veins. The excess of carbonic acid in the blood is due either to a deficient supply of oxygen to the lungs by respiration, or to a want of power of the blood corpuscles to fix oxygen, and this last is due to some obscure defect of assimilation. In these patients, who appear to be convalescing, we find no real appetite, although, if urged, they will often eat a sufficient quantity of food. They slowly get paler and more emaciated until a thrombus occurs, which gives different symptoms, according to its location. M. Bouchut, the eminent pediatrician of Paris, has formularized this as follows:

"In all the cachexiæ and in chronic diseases, thromboses may develop in any of the veins from the head to the feet, and which produce a group of symptoms having a direct relation with the function of the organ in which the thrombus is situated."

Sometimes, a week or more after the throat has cleaned off in diphtheria and any breaches of tissue have cicatrized, a slight excess in eating is followed by vomiting, purging, col-

lapse, and death in a few hours. These symptoms are due to thromboses in the gastric, intestinal or cerebral veins, and have no relation with the excess in eating, except coincidence. Heart-clot is a more common cause of death, which has also been attributed to the fatty degeneration of the heart which occurs in diphtheria. In very young children, under three years, the thrombus is more likely to occur in the sinuses of the dura-mater, giving rise to edema of the pia-mater, convulsions and coma. After a thrombus has occurred, the case is about hopeless; but much may be done to prevent their formation by properly nourishing the patient. We should give those remedies which directly assist in the digestion of the food, as pepsin, lacto-peptin, muriatic acid, or, still better, where they can be procured, foods already digested, viz., peptones, or solutions of meat, and egg in artificial gastric juice, and extract of malt.—*San Francisco Western Lancet*, July, 1879.

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## CASE OF EARLY WOMANHOOD.

Annie D., aged 4 years, was brought to me as an out-patient at the Children's Hospital here, by her mother, who stated that, since the child was two weeks old, she had suffered from a discharge from the genitals, lasting from two to three days, and returning as near as possible every month; the character of the discharge being, to use the the words of the mother, "exactly the same as from herself, when she was unwell." The child was a fat plethoric little creature, with well developed breasts, as large as are usually found in young women at the age of 16 or 17, after menstruation has become established; at times, according to the mother, they became quite hard and prominent; the nipples were dark, and rather large, over a *centimètre* long, and standing prominently out in the centre of dark areolæ, two *centimètres* in diameter.

The external genital organs were well developed, the labia minora being especially prominent. With the greatest ease, I passed my index-finger two inches and a half up the vagina, without causing the child the slightest pain. The cervix uteri was large; and indeed, the whole organ seemed fully as big as the average virgin uterus at puberty. The front of the abdomen and the back were covered with patches of ephelis. The child was evidently rickety, genu valgum being marked.

The case seemed to me an interesting one, and worth recording; for, excepting the absence of pubic hair, the child was a perfect little woman. Strange enough, her precocity was confined alone in a sexual direction; for whilst of her own accord her mother had seen her frequently "offer her breast to the baby," yet mentally she did not exceed the capacity of her age. The presence of the ephelis, or *taches hépatiques*, is undoubtedly rare in infants; and in this case, being most likely connected with the advanced stage of sexual development of the child,

they enhance the interest of the case.—David Drummond, Physician to the Children's Hospital, and to the Infirmary, Newcastle-on-Tyne.—*British Medical Journal*, July, 1879.

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### INTRA-UTERINE THERAPEUTICS.

Dr. Cnopf, of Nuremburg (*Memorabilien*, part 5, 1879), has lately tried the experiment of treating rachitis during intra-uterine life. The patient was a woman who had given birth to several rickety children. Both parents were seemingly healthy, but showed traces of rickets. Dr. Cnopf, treated the woman with phosphates for several months previously to her delivery. A very well formed healthy male child was born, which did not present the slightest symptoms of rickets.—*British Medical Journal*, July 19.

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### THE BEDOUIN ARABS.

In Lady Anne Blount's recent work on the Bedouin tribes of the Euphrates, there are some notes as to the physical condition of the Arabs that are medically interesting from more than one point of view. It seems that, in spite of their absolute temperance and constant open-air life, they decay prematurely. Well made and handsome in youth, at 40 their beards are grey; at 50, they are old; and the age of 60 is reached by few. From childhood up, they are in hard training, eating but once a day, and then sparingly; and sleeping on the ground. This ensures them high health and a full enjoyment of all their faculties, *at the time*, but uses the body rapidly; and a certain "staleness" follows, which the Bedouins acknowledge by withdrawing early from all unnecessary exertion. The reaction is quickly felt; men of forty complain of indigestion, rheaumatism, etc., and of the first positive disease they die. In youth, ill health or defective powers are unknown; but a man who falls seriously ill has as little chance of recovery, as the wild animal. Doctors do not exist, nor is there any knowledge of herbs. The sick is obliged to move with the tribe. He is set on a camel, and clings to it as best he can. In the tent, he lies surrounded by his friends, who—very Job's comforters—talk to him till he dies. wounds too are often fatal, from want of knowledge or of quiet. The Bedouins have no great appearance of muscular strength, but they are singularly active and enduring. They are patient and humane, and seldom allow their passions to pass beyond control; one main reason being their sobriety. No drink stronger than "lebben," or sour milk, is known among them; and they look upon the use of all fermented liquors as disgraceful. Brutal crimes have no place in the catalogue of Bedouin sins. The women are in person proportionately taller than the men; the older of them often become fat and unwieldy; the younger do all the labor of the camp, fetching wood and water, setting and removing tents, milking, and cooking. They live apart from

the men, except their nearest relatives, but have plenty of society amongst themselves. They seem to have good health and good spirits; but in mental qualities the women of the desert are usually far below the men, their range of ideas being extremely limited.—*British Medical Journal*, July 19.

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### REGENERATION OF THE EYE.

According to a French journal, some curious facts have come to light about the regeneration of the eye during experiments made by M. Philipeaux. He has aimed to ascertain whether, on completely emptying the eyes of young rabbits and guinea-pigs, the vitreous humor would be reorganized, and whether even the crystalline lens would be reproduced. He has been careful not to destroy the crystalline capsule, for experience has shown that in order that an organ should be regenerated a portion of it must be left in its place. A month after the mutilation was effected, the eyes which had been emptied were filled afresh, and the crystalline lens was restored. He operated on twenty-four animals, and in each case the mutilated eye revived. This would seem to show that the optic organ has the same capabilities as the bones; the organic process repairs an injury, and reconstructs, more or less completely, that portion which has been lost.—*Boston Journal of Chemistry*, July.

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### A NOVEL IDEA.

M. Monclar, a noted agriculturist in France, has suggested a singular plan for varying the flavor of meat. He imagines that by feeding cattle, sheep, pigs, and poultry in a particular way, or rather by flavoring their food in various ways, their flesh may be rendered much more agreeable to the palate than it often is; and there can be no doubt that he is substantially right. Thus, for instance, one can assert, as the result of personal experience, that poultry which have been fattened upon food containing a slight admixture of chopped truffles are far better eating than those chickens which have been stuffed or larded with truffles after they are killed. It is only natural that such should be the case, for the flavor of the truffle that is consumed by the chicken permeates the whole system, which it cannot do when simply placed in the carcass. M. Monclar instances cases in which hares killed in a wormwood field, larks shot in a cabbage field, and eggs laid by hens which had eaten diseased silkworms had such a nauseous taste that no one could touch them; while, upon the other hand, some ducks and field-fares which had fed upon sprigs of juniper had a delicious flavor. He has made several experiments—among others three upon tame rabbits, which he fed with the waste of anise-seed, with barley and bran containing a slight flavoring of juniper, and with barley and bran containing a little essence of thyme.

In each case he found that the flesh of these animals was far better eating than that of rabbits fattened in the ordinary way, and yet that there was no trace of anise-seed or juniper in the taste. His conclusion is that cattle, sheep, and pigs might be fed in the same way, and that by varying the flavoring matter beef, mutton, and pork might be made to have several different tastes.—*Boston Journal of Chemistry.*

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## DRUG SMOKING.

Our readers are aware that medicated cigarettes, for use in asthma, catarrh, and kindred diseases, have become popular of late, and it is an interesting question whether this mode of administering drugs has any special therapeutical value. Dr. R. E. Thompson has been led to investigate the subject, and gives the results of his experiments in a paper in the London *Practitioner*. He says that the simplest and surest method of combining medicinal agents so that the smoke may be inhaled and brought into contact with the blood-vessels of the lungs is by using paper soaked in a weak solution of nitre, dipped afterwards into the tinctures or solutions of the drugs to be administered, and rolled into cigarettes of uniform size. The paper most suitable for the purpose was found to be Swedish filtering paper, which burnt freely and gave out but little odor. The scent of the smoke was, however, so disagreeable that it was necessary to disguise it, and the following formula represents the basis of each cigar: Swedish filtering paper, size 4 by 2½ inches; nitre, ¼ gr.; tinctua tabaci (1 in 8), 10 minims; ol. anisi, ⅛ minim. A solution of the drug to be experimented on is then prepared, the paper floated on the solution, dried, and cut to any required size. An eighth of a grain of opium produced effects which were too intense, and 1-64 of a grain of extract of opium was found to be sufficient for the initial dose. Cigarettes with this amount of opium were smoked by four healthy men, and in a few minutes a decided effect of dizziness was produced. Not more than half the quantity of the drug can have been retained in the lungs. Short accounts are given of nine cases in which this preparation proved useful. In the first, eleven hours' sleep were obtained by smoking half a cigarette.

Dr. Thompson then sums up his conclusions as to the administration of opium in this manner:

The smoking of opium is especially adapted to cases of harassing cough; the topical effect of the drug is immediately obtained without any part of the dose being wasted on other tissues; moreover, this mode avoids those objectionable effects which are a bar to the use of the drug when it has to be given by the mouth into the stomach. Opium-smoking is peculiarly useful in those cases of laryngeal ulceration in which all attempts at deglutition are accompanied with extreme pain, and the topical effect of the anodyne is chiefly sought.—*Boston Journal of Chemistry*, July.

### THE DIPHTHERITIC POISON.

A singular instance of the vitality of the poison of diphtheria is reported in the *Vratschebnyia Vedomosti*. A gentleman in the south of Russia had, four years ago, lost a boy from diphtheria. A family vault having recently been constructed, the coffin of the boy was transferred thither. Before it was lowered down into the vault, the father wished to look at the body, having entertained a suspicion that the child had been buried alive. An opening was accordingly made in the lid of the coffin, the whole family, including the five children, looking on. The next day all the children were ill with diphtheria, and one of them has since died.—*The Hospital Gazette.*

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### SACCHARINE DIABETES.

The experiments of Dr. Fürbinger, in Berlin, seem to show that the two most active agents in reducing the excretion of sugar in this disease are salicylate of soda and carbolic acid.—*Medical and Surgical Reporter*, July 19, 1879.

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### TAE NECESSITY OF PROVIDING CHILDREN WITH WATER TO DRINK.

Dr. Murdoch, of Pittsburgh, has writtan a very sensible health-paper on the Causes and Prevention of Cholera Infantum. The majority of cases is to be traced to the food, and the number is greatest among bottle-fed infants—on sour milk. This cause is well known, of course, to physicians, but we doubt if even the profession is at all times wholly alive to the sanitary necessity of providing water for children to drink. Dr. Murdoch says:

"Another cause of the great mortality among children is the neglect to provide them with cold water to drink. This, especially during the hot weather of summer, is the source of more deaths of young infants than all other causes combined. The explanation is simple. The little ones during the hot weather perspire freely. This would not be the case were they entirely naked, but, as is too often the case, they are kept sweltering under clothing or blankets. The water which they lose by perspiration causes them to be very thirsty; they require water. If no water is offered, they will drink freely of any fluid that is offered to them. The fluid which is offered is usually milk, often milk which has become sour by the extreme heat. The child is thirsty, but not hungry; but not getting the water, which it does want, it drinks the milk, which it does not want. The consequence is, the child's stomach becomes overloaded with food which it has not the power to digest. This food, instead of nourishing, is a source of irritation to the child's stomach and bowels, and causes vomiting, purging, cholera infantum and death.

"Children to whom no water is offered in hot weather are like men cast away at sea with no fresh water to drink to cool their parched tongues and quench their tormenting thirst. These men will drink of the salt sea-water, and it is said that they go mad with the distressing thirst which they have thereby increased. The salt water which these poor shipwrecked men are tempted to drink is hardly more fatal to them than is the sour milk which is often the only fluid offered to the thirsty child.

"Water is the *sine qua non* in the management of children during the hot weather of summer. Even children at the mother's breast should often be offered water. But to children reared upon the bottle it is indispensable. It is their life. It quenches thirst, supplies the place of water lost by perspiration, keeps up the perspiration which is necessary for maintaining the proper temperature of the body, and makes the little one comparatively comfortable. It will do all this, and it will do more; for if the child's thirst was always appeased, it would refuse food when not hungry, and would never drink milk when the milk was sour. The consequence would be that it would only take milk when the milk was sweet, and in quantities which it would be able to digest."—*Louisville Medical News*, July 19.

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BROMINE IN LARYNGEAL CROUP.

Dr. W. Redenbacher (*British Medical Journal*, 1879, p. 234; from *Aerztliches Intelligenz-Blatt*), called to the case of two little girls, aged respectively 5 and 7, suffering with severe croup of the larynx and air-tubes, ordered a tablespoonful of the following mixture to be taken every hour:

℞ Decocti altheæ, f℥iv;
Potassi bromidi, ℥i;
Bromi, gr. ivss.;
Syrupi simplicis, f℥i.

On again visiting the patients, whom he did not expect to find alive, he was most agreeably surprised. The difficult breathing, dry hard cough, etc., had all disappeared; the breathing was free, and the cough loose; several portions of croupal membrane had been coughed up. Recovery followed, without toxic symptoms. For children under one year, the quantity of bromine in the mixture should be reduced to one grain and a half, and for those from one to four years old, to three grains.—*Medical Times.*

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SORE NIPPLES.

It is observed that sore nipples are often due to the habit which many young mothers have of applying mallow lotions to them, which only renders the mucous membrane unnaturally tender. They also frequently induce sore nipples by the

practice of applying the child to the breast every few minutes. On the other hand, the same effect is produced by following the advice of many nurses to defer commencing suckling to the second or third day.

The breast has become hard and swollen, and the infant cannot draw milk by sucking. However, from whatever cause sore nipples may arise, advise abstinence from employment of any of the numerous remedies (especially those of a greasy character) which are being constantly recommended as infallible, and as constantly falling into disuse. Instead of these, however deep and extended the chaps may be: Wash the nipple in pure water, and carefully dry it, and then powder it and the sores with suberine, *i. e.*, the impalpable powder of cork. This, too, is much to be preferred in the hygiene of infancy to the inert powder lycopodium, for it is cheaper and contains some tannin. Over the suberine is to be placed a portion of gold beater's skin cut star fashion, in the centre of which some apertures have been made by means of a very fine needle. Whenever the infant is about to suckle, the suberine is to be washed off, and the gold beater's skin reapplied, by means of which the child will suck without causing any pain. When it has finished, the suberine and the gold beater's skin are to be replaced and so on every time. This simple treatment always succeeds.—*American Medical Bi-Weekly.*

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### CARBOLIC ACID IN SHINGLES.

Dr. Lamberti reports, in the *Rerista Clinica di Bologna*, a case of herpes zoster, or "shingles," which he cured in a single day by means of carbolic acid. He painted carefully the vesicles with the liquid acid, using a camel-hair brush, and then covered the whole part with a thick layer of cotton-wool. It caused severe burning pain for two hours, after which ease was obtained, and the patient, having received a dose of chloral hydrate, fell asleep, and awoke the next day feeling quite well. Nothing more was done, but the cotton-wool was left on for three days. On its removal then the vesicles were all dried up, the crust adhering to the cotton-wool, and the spots that remained were not in the least tender. A saline purgative and a drink containing bicarbonate of soda were the only medicines taken. No return has occurred after two years, and Dr. Lamberti thinks this method of treatment may frequently prove of great value.—*Boston Journal of Chemistry.*

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### DEODORIZED IODOFORM.

The very unpleasant pungent odor of iodoform can be completely masked by oil of peppermint. For instance, iodoform 2.0, vaseline 30.0, rubbed up with six drops of oil of peppermint make an ointment with a pleasant aromatic scent.—*Hospital Gazette.*

# EDITORIAL.

## FIGHTING YELLOW FEVER.

Autumn has returned, soon to bring the period of respite from outbreaks of yellow fever. For after all the vigorous efforts hitherto made to arrest the spread of this disease, the eagerness with which we hail the approach of frost shows that our trust in natural causes to effect this end is altogether better confirmed than in human agencies. But a concession such as this need not invalidate an affirmation that great good has followed efforts to arrest the spread of yellow fever in 1879, nor even further, that measures instituted to stamp out the disease after its appearance, had been followed by successful results, however brought about.

In proof of the first of these averments, we may cite our readers to the great numbers of cases and outbreaks in different localities from which no spread has occured. The measures practiced in all these instances have been isolation and disinfection.

Unquestionably isolation is the most important of all measures to prevent spread of yellow fever. The plain old farmer who last year told the writer that he did not believe "yellow fever could go anywhere unless you tote it," expressed in coarse but strong terms, his faith in an attribute which no one denies that yellow fever posseses—that is—portability.

Disinfection must still be reckoned a means of stopping yellow fever invasions lacking precise formulation. There is however a very strong tendency among sanitarians to trust more in detersive measures, and less to chemicals than formerly. This we especially commend.

New Orleans has this year escaped an epidemic—in truth, not over forty cases have occurred during the whole year. In the meantime the Citizens' Auxiliary Sanitary Association and the State Board of Health have worked with great energy and success, to make the city as clean as possible. Yellow fever is not a "dirt disease," like cholera and typhus fever; but no one can affirm the character or amount of influence favorable to its

spread from the presence of filth. All admit that it has a special cause. Most observers consider this cause a contagium vivum, and if so, some organic material must probably constitute its pabulum, for even vegetable organisms require organized substance as fertilizers if not actually for food. This pabulum may be often, or even generally, associated with filth. But apart from any arguments of this kind, all old observers of yellow fever have associated with its tendency to infect localities and adhere to them with a fixed tenacity, some quality which the contagium appears to possess, of planting upon, or attaching itself to solid surfaces. Therefore scalding, scrubbing, scouring, scraping and cleansing all surfaces in proximity to yellow fever cases should be a rational and valuable mode of disinfection. It must of course, be understood that clothing, bedding and all textile fabrics be included in the term surfaces.

To conclude, the work of the present year has much to encourage us, and our profession should feel hopeful that the day is near at hand when we will be able to effectually banish this great arch enemy to our public health, commerce and prosperity.

## Reviews and Book Notices.

*Complimentary Dinner given to Professor S. D. Gross, by his Medical Friends, in Commemoration of his Fifty-first year in the Profession, April* 10, 1879. 8vo., pp. 42. Philadelphia: Lindsay & Blakiston. 1879. [From Armand Hawkins, 196½ Canal street.]

This little volume gives a brief account of that interesting occasion, together with the principle after-dinner speeches, letters from absent invited guests, list of subscribers to the entertainment, of the invited guests, both present and absent, etc. The most appreciable feature of the book is the frontispiece, a well-executed steel plate engraving of Dr. Gross. The face exhibits all the benevolence and more than the intelligence of the professional philanthropist. The picture might properly represent the Genius of Medicine, or benevolence and knowledge combined. S. S. H.

*The Advantages and Accidents of Artificial Anæsthesia; a Manual of Anæsthetic Agents, and their Employment in the Treatment of Diseases.* By Laurence Turnbull, M.D., Ph. G., Aural Surgeon to Jefferson Medical College Hospital, etc. Second edition, revised and enlarged. With 27 illustrations. 12mo., pp. 322. Philadelphia: Lindsay & Blakiston. 1879. [From Armand Hawkins, bookseller, 196½ Canal street.]

This edition contains as new matter, the results of some late experiments with anæsthetics, particularly hydrobromic ether, and the combinations of ether, alcohol and chloroform for the purpose of determining their proper proportions and advantages. A new table of deaths from chloroform is introduced, running from 1869 to 1879, numbering 110 cases. It was thought necessary to omit the bibliography and the historical sketch of the discovery of anæsthesia from this edition, to keep the book within limits of moderation.

In most other respects the original purpose of the work has been adhered to, viz., to give a description of the most approved agents used as anæsthetics; to state their composition, physical and medical properties and chemical tests: to describe the best modes of administering them as well as the precautions to be observed and the proper methods of resuscitation, in case of accidents; to compare the various anæsthetics and inhalers in use, from the experience of the author, his assistants and his friends; to show the relative safety and danger of various agents.

Chloroform, of course, occupies a prominent part of the author's attention, and it is proper for our Southern readers, with whom this agent is the favorite, to know that he regards it as highly dangerous, and under most circumstances improper for use. While admitting the force of testimony, that accidents from the use of chloroform are relatively less frequent at the South than at the North, he suggests—"There may be something in the difference in the boiling point of chloroform in the South, and in the fact of the air being more heating and stimulating." It is to be hoped other readers may comprehend the above reasoning better than we can claim to do.

The nitrite of amyl is recommended not only as an anæsthetic by itself, particularly in angina pectoris, but as an adjunct to

chloroform, in a small proportion, to counteract the depressing influence of the latter. Ether may be used for the same purpose, either in a mixture, or as a substitute after insensibility has been once produced. The mixture of chloroform and amyl nitrite is named chloramyl, and consists of 16 drops of the latter to one ounce of the former.

An instructive chapter is devoted to the legal responsibility of physicians in the administration of anæsthetics, the medico-legal relations of anæsthetics, and other kindred topics. As to the practicability of the criminal administration of chloroform to persons in natural sleep, about which the laity are so credulous and the profession so skeptical, he admits the possibility in certain cases, in common with some other experts, particularly Prof. H. C. Wood. A heavy sleeper and an easy subject for chloroform in the usual way might, we should suppose, be thus *exploited.*

In choosing the proper anæsthetic, the author prefers, for minor operations, where cost is not to be consulted and odor to be avoided, the hydrobromic ether; for ordinary dental operations, the nitrous oxyd gas, with reference to safety; for grave and protracted operations, pure ether.

Throughout the work the author quotes freely from the best authorites, and it therefore reflects the opinions of a large number of expert witnesses. In this course we feel bound to commend his avoidance of dogmatism, and recognize the superior claim of his work to the appreciation of candid readers.

On the whole, we regard this little volume as a useful contribution to medical literature, and one likely to prove a business success. S. S. H.

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*The Heart and its Diseases, with their Treatment; including the Gouty Heart.* By J. Milner Fothergill, M.D., Asst. Phys. to West London Hosp., and to city of London Hospital for Diseases of the Chest, etc. Second edition (entirely re-written), with illustrations. 8vo., pp. 476. Philadelphia: Lindsay & Blakiston. 1879. [Sold by Armand Hawkins, 196½ Canal street, New Orleans.]

The medical literature of this important organ has hitherto not been a neglected field. Indeed it has been cultivaed by so many industrious workers, that we might suppose there would

be no place for a new author. Dr. Fothergill has demonstrated, however, well founded claims to recognition by producing the best work on the heart which has met our notice. A new and prominent feature is the discussion at length of the relations between structural lesions of the kidney and the heart, in a chapter entitled The Gouty Heart. Though the author's opinions are not fully matured, he inclines to the belief that renal decay precedes the cardiac changes and stand in the place of cause to the latter. Strong confirmatory evidence of this view is adduced in the development of the correlated affections in the second and third generations of families which have gained and preserved wealth, with its accompaniments of luxury and superabundant nutrition.

It is greatly to the credit of modern medicine and medical men, that lesions of vital organs, such as the brain, the heart, the lungs, the liver, the kidneys, have latterly been so accurately observed, both in the living and dead subject, that no practitioner need be at a serious loss to diagnose the most common of them. When, therefore, we observe burial certificates bearing as death-causes vague and indefinite disorders of these organs, among which "Heart Disease" is conspicuous by its frequency, we are painfully struck by the conviction that nothing but neglect of abundant opportunities can account for such culpable ignorance. It is hoped that no reader of these lines uses the term "heart disease" in its naked simplicity, but most would find this work instructive in its matter and agreeable in its style, for Dr. Fothergill, unlike many authors both medical and non-medical, writes correct English.

The anatomy of the heart, both healthy and morbid, is illustrated by suitable wood cuts and lithographs, and numerous tracings of the sphygmograph exhibit its normal and disordered action. S. S. H.

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*Physiology and Histology of the Cerebral Convolutions. Also Poisons of the Intellect.* By Chas. Richet, A.M., M.D., Ph. D. Translated by Edward P. Fowler, M.D. 8vo., pp. 170. New York: Wm. Wood & Co. 1879.

The main portion of the volume is divided into two parts, the first of which treats of the minute structure of the convolutions of the brain, and the second of their physiological prop-

erties and functions. The first 46 pages, devoted to the anatomy of the brain, both human and comparative, may be considered precise and accurate; but the second part is concerned with investigations, largely experimental upon the lower animals, in which conclusions are rather presumptive than demonstrable. For example, it is assumed that the faculty of speech resides at the foot of the third left frontal convolution, though it is admitted that aphasia may occur without lesion of this particular convolution, and that the lesion may occur without aphasia. Yet greater precision is claimed for such localization of intellectual faculties than for any other.

Some attempts at further localization of mental faculties have been made by different experimenters, with varying inexactitude. Ferrier concludes that a relation has been established between the gyrus angularis and vision; between the first temporal convolution and hearing; between the gyrus hippocampi and touch; between the cornu ammonis and the senses of smell and taste; between the occipital lobes and hunger; between the region of the hippocampus and thirst together with the sexual appetite; while Longet and Vulpian regard the pons varolii as the seat of pain and the sensorium commune. This all is far short of the achievements claimed by Gall and Spurzheim and their sanguine followers in our own day, yet physiologists are not ready to consider the question settled, and the author claims for the more special intellectual faculties only a definite relation to mass of the cerebrum and complexity of the convolutions, a conclusion long ago reached by comparative anatomists.

The volume closes with an essay on Poisons of the Intelligence, among which are included alcohol, chloroform, coffee, hashish and opium. Their action on voluntary motion and the functions of organic life are not considered, but their effects upon the circulation and upon the functions of the cerebral lobes are particularly delineated.

The book is illustrated by 23 wood-cuts, after drawings by late investigators in this particular field, and by no means remarkable as works of art. On the whole the work indicates progress in this obscure branch of physiology, though it may not always be in the right direction; but without deviation there can be no advance in knowledge, and we should be thankful for any attempt in a difficult field. S. S. H.

# Books and Pamphlets Received.

*Lessons in Gynecology.* By William Goodell, A.M., M.D., Physician in charge of the Preston Retreat; Professor of Clinical Gynecology in the University of Pennsylvania; Fellow of the American Gynecological Society; Member of the Philosophical Society, etc., etc.

*Twenty-first Annual Announcement of the Chicago Medical College, Medical Department of the Northwestern University. Session of* 1879–80.

*The Treatment of Epithelioma of the Cervix Uteri.* By J. Marion Sims, M.D., Founder of the Woman's Hospital of the State of New York, and formerly Surgeon to the same; Knight of the Legion of Honor, etc., etc. Reprint from the American Journal of Obstetrics and Diseases of Women and Children, Vol. XII, No. iii, July, 1879.

*Reports to the St. Louis Medical Society on Yellow Fever.* By W. Huston Ford, A.M., M.D., formerly Professor of Physiology in the New Orleans School of Medicine, etc.; Member of the St. Louis Medical Society, etc.

*Transactions of the Medical and Chirurgical Faculty of the State of Maryland—Eighty-first Annual Session*, 1879.

*Prospectus of the Loquet Leroy Day and Boarding School for Young Ladies, New Orleans Female Collegiate Institute, 280 Camp Street. Session* 1879–80.

*Nashville Medical College, now the Medical Department of the University of Tennessee—5th regular Announcement, Session of* 1879–80.

*Annual Announcement of the Louisville Medical College, Louisville, Ky.—Session* 1879–80.

*Retroversion in relation to Lacerations of the Cervix Uteri, etc.* By Nathan Bozeman, M.D., New York. Reprint from Vol. III, Gynecological Transactions, 1879.

METEOROLOGICAL SUMMARY—AUGUST, 1879. STATION—NEW ORLEANS.

| DATE. | Daily Mean Barometer | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. |
|---|---|---|---|---|---|
| 1 | 30.06 | 83.0 | 74.0 | East. | .54 |
| 2 | 30.11 | 82.5 | 77.7 | East. | .05 |
| 3 | 30.08 | 84.0 | 74.3 | South | .18 |
| 4 | 30.04 | 84.0 | 70.7 | West. | 03 |
| 5 | 30.04 | 80.5 | 75.3 | West. | 1.48 |
| 6 | 30.03 | 81 5 | 77.3 | S. W. | .04 |
| 7 | 30.00 | 82.5 | 76.3 | South | .36 |
| 8 | 30.01 | 81.5 | 83.0 | S. W. | .32 |
| 9 | 30.03 | 80.0 | 77.0 | N. W. | 1.11 |
| 10 | 30.04 | 79.7 | 63.7 | North | 00 |
| 11 | 30.06 | 77.7 | 63.0 | N. E. | .02 |
| 12 | 30.04 | 78.2 | 70.7 | North | .45 |
| 13 | 30.00 | 77.5 | 88.0 | East. | 2.52 |
| 14 | 29.91 | 79.7 | 78.0 | N. W. | .06 |
| 15 | 29.90 | 81.0 | 78.3 | West. | .00 |
| 16 | 29.90 | 80.0 | 66.0 | N. W. | .00 |
| 17 | 29.91 | 79.5 | 56.3 | North | .00 |
| 18 | 29 98 | 79.2 | 57.3 | North | 00 |
| 19 | 30.02 | 79.2 | 51.7 | North | .00 |
| 20 | 29.98 | 81.5 | 63.3 | East. | 00 |
| 21 | 29.88 | 81.2 | 74.7 | East. | .37 |
| 22 | 29.64 | 80.5 | 83.7 | East. | 2.11 |
| 23 | 29 66 | 82.7 | 76.0 | South | .21 |
| 24 | 29.81 | 83.7 | 75.7 | S. W. | .00 |
| 25 | 29.92 | 84.2 | 72.0 | West. | .... |
| 26 | 29.90 | 84.0 | 63.7 | North | .00 |
| 27 | 29.86 | 81.2 | 52.3 | North | .00 |
| 28 | 29·88 | 80.7 | 66.3 | East. | .00 |
| 29 | 29.94 | 80.2 | 65.0 | East. | 00 |
| 30 | 29.88 | 80.7 | 67.7 | East. | .00 |
| 31 | 29.77 | 79.7 | 81.0 | East. | .57 |
| Sums | | | | | |
| Means | 29.945 | 81.0 | 70.9 | East. | 10.44 |

GENERAL ITEMS.

Highest Barometer, 30.135, on 2d.
Lowest Barometer, 29.586, on 22d.
Monthly Range of Barometer, .549 in.
Highest Temperature, 89°.
Lowest Temperature, 69°.
Monthly Range of Temperature, 20°.
Greatest Daily Range of Temperature, 15° on 9th.
Least Daily Range of Temp., 7° on 22d
Mean of Maximum Temperatures, 85°
Mean of Minimum Temperatures, 73.6°
Mean Daily Range of Temp., 11.4°.
Prevailing Direction of Wind, East.
Total Movement of Wind, 5,708 miles.
Highest Velocity of Wind and Direction, 36 miles, East, on 22d.
Number of Foggy Days, 0.
Number of Clear Days, 9.
Number of Fair Days, 15.
Number of Cloudy days on which no Rain fell, 0.
Number of Cloudy Days on which Rain fell, 7.

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871..... | | 1876..... | 82.2° |
| 1872..... | | 1877..... | 83.1° |
| 1873..... | 81.2° | 1878..... | 83.5° |
| 1874..... | 83.9° | 1879..... | 81.0° |
| 1875..... | 79.3° | 1880..... | |

COMPARATIVE PRECIPITATION.

| | | | |
|---|---|---|---|
| 1871..... | inches. | 1876.. | 4.44 inches |
| 1872..... | " | 1877 . | 2.54 " |
| 1873...8.30 | " | 1878.. | 5.31 " |
| 1874...4.82 | " | 1879.. | 10.44 " |
| 1875...8.61 | " | 1880..... | " |

MORTALITY IN NEW ORLEANS FROM AUGUST 24, 1879, TO SEPTEMBER 21, 1879, INCLUSIVE.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| August 31. | 3 | 10 | 17 | 0 | 6 | 81 |
| September 7 | 4 | 7 | 17 | 0 | 2 | 96 |
| September 14. | 0 | 2 | 13 | 0 | 2 | 70 |
| September 21. | 1 | 4 | 13 | 0 | 2 | 69 |
| | | | | 0 | | |
| Total.... | 8 | 23 | 60 | 0 | 12 | 316 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

NOVEMBER, 1879.

## ORIGINAL COMMUNICATIONS.

### Vaccination as a Protection Against Small-pox Before the Tribunal of Common Sense.

By M. SCHUPPERT, M.D.

In the New York *Medical Record* and republished in the *American Medical Bi-Weekly* of June the 26th, I met with a request of C. J. Fisher, M.D., of Boston, Mass., to discuss the question: "Does Successful Vaccination prove that Small-pox has not been recently experienced?" I intended at that time to assist the doctor with my experience and views (in regard to the matter involved), but sickness and different other obstacles prevented me from giving a timely assistance, and thus the matter rested, until of late, I again met in one of the medical journals of Germany, with another and similar case in which a colleague had become involved, and who was condemned by the Criminal Court of his district to pay a heavy penalty for having performed vaccination in an "irregular and lax manner."

This reminded me of my former intention, if not obligation. Still I do not intend to limit the present contribution by merely referring to the question here involved, but to give it a wider scope, and if I here for the first time report experiments worthy of some consideration, which, though already made in the year 1865, were never published before, I was wanting

those inducements which have since presented themselves to me. Not that I ever thought less of the results obtained by the experiments referred to, but at the same time I thought more of the opposition and the obstinate prejudice having taken possession of the minds of so many otherwise clear-sighted and intelligent men in relation to vaccination as a protection against small-pox.

Being conscious of the utter inefficiency of vaccination as a preventative against small-pox, and aware of the manifold mischief committed by it, yea, even the deaths it has caused, I do not know but I was wrong in remaining silent. But now my position has been strengthened by collected material, by numerous evidences of the evil, of the damages and injuries it has caused, that I cannot keep that reserve any longer without reproaching myself of becoming *particeps criminis*.

Before I enter the main subject of this contribution I will state here in a brief manner, first, the case of Doctor Fisher. The doctor was accused of having committed a great diagnostical error: A man suffering an attack of small-pox, had been confined by the doctor (being quarantine officer), in order to prevent a spread of the disease. From some cause or other, this man considered himself wrongly deprived of his liberty, and not believing, besides, that he had suffered small-pox at the time he was confined, hunted up some assistance to have his opinion corroborated and in attempting this, fell into the hands of the Philistines; one of those fellows whom the doctor calls a "Quack," belonging to a class of leeches who are ever ready to squeeze a dollar or two out of a fool, took the matter in hand, and asserting boldly that the doctor had wronged his client.

Fortunately for his purpose the "Quack" met with a too willing ear, and the fool submitted to a proposed vaccination which it was promised would corroborate the statement made, furnishing besides the unquestionable proof that he had not suffered the small-pox. As is often the case, the "Quack" had even more luck than he deserved, since he was spared to invent another lie, by the vaccination turning out successfully which might as well have failed. The "Quack" had herewith

made good his prediction; and this made his cause bomb-proof. Unfortunately the doctor's position became more endangered, at least in the eyes of the ignorant public, by the access of some of his "colleagues," which he designated as "regulars," and whom that man had won to strengthen his case.

The doctor should not have forgotten that in such a game the number of "savants" count for a great deal; besides there was a member of the Medical Association of Boston in that congregation who ought to be relegated *cum infamia*, to say the least, if the Code of Ethics is to be sustained. In regard to the vaccination result and the unanimity of the "regulars" in their condemnation of the doctor we cannot wonder, if we take into consideration how deeply that doctrine has gone into flesh and blood to obstruct and bereave the judgment, and that it is one of the cardinal points of the teachings of Jenner that vaccine will destroy the power of conception of small-pox virus. Most assuredly the "regulars" had sufficient reason to doubt that a person having just suffered an attack of that disease could not at that time (so shortly afterwards) present a condition in which vaccination should have a successful issue. Too indolent for searching the pages of history after failures of that protective power, and too stupid to undertake some controlling experiments themselves, and if it had been merely for their own scientific advancement, they preferred ruminating what was known to them as wholesome fodder. Men of that stamp remind me of those natural philosophers who out of mere love of what the Bible teaches, insist upon the offspring of the human races from one pair, maintaining that our cousins—the American redskins came from the Mongolians, because they had found some slight resemblance in the formation of their respective skulls, which is at present the hobby of the anthropologists. It is useless to tell them that the Bible cannot be considered scientific authority, or to prove to them the impossibility of the change of races, and that the islands of the South Sea are inhabited by quite a different race, and that the Mongolians, therefore, before they could have turned into redskins must first have turned into Polynesians. It is of no use to try logic on them. If they are forced to relinquish one point as inadmissible

up they come with another. In order to save their once asserted Mongolian abstraction theory, they made use of the terra firma, and tried again by the Tschaktchen in the north between Siberia and North America, but these people had domesticated animals, dogs, the reindeer, and they were cognizant of the use of milk; all things the American Indians were ignorant of at the time of the discovery of this continent. Nothing was now left them but an immigration from the eastern coast of Asia to the western coast of America. Yet they attempted it, notwithstanding the existence of a still greater impossibility since all such who would have dared it in their miserable small canoes would have died, long before they could have reached their destination—the American shore. Besides there is another hook in the many different languages. Indeed, but a fool could suppose that the Chinese or Japanese would have exchanged their language for a hundred different others. Exactly as we have proven here, it is with Jenner's hare-brained theory of vaccination. After the "infallible," absolute protection theory of a single vaccination had been demolished; after a readmission of the faculty of becoming affected by small-pox at certain intervals had been demonstrated, revaccination was called into requisition, first, once during a life time, then every 14 years, and from 14 the number was reduced by and by to 5 and 3 years, till now, as in Würtenberg, in Germany, the whole kingdom, kith and kin, is revaccinated every second year, *par ordre du mufti*. If we inquire after the result, singular as it may appear, yet it cannot be denied that, whilst the countries surrounding Würtenberg are comparatively free from small-pox, there it never dies out, but is flourishing in spite of vaccination. After revaccination had made in this, as well as in other countries, such fiasco, and since the protection theory could not longer be sustained, it was asserted that small-pox appeared, at least, in a more milder form, that a smaller number became affected, and that the mortality also had evidently decreased. But these subterfuges could not stand the test of truth. "The great boon of the century," cost its admirers a great deal of anxiety in order to save it from impending destruction or

total annihilation. So they hit upon the ingenious idea to explain its defficiencies by the deterioration of the vaccine in the course of time, and in order to render it again effective, it would be necessarry, they said, to go back to the original cow-pox lymph and to humanize the latter. A happy idea, indeed, for the moment, and it was taken hold of and proclaimed as the new sheet anchor all over the civilized world.

Thus we had here in our midst, in one of the most frequented streets—the Boulevard Canal—a stall, with cows kept in it, and next to the office of the doctor. A great many people went to see vaccination performed direct from the cow. The spectacle lasted as long as it was new, but unfortunately, for the doctor's speculation it did not last long enough; the nuisance disappeared again soon after it had been established. What the real cause of failure was, whether there were not quite enough fools to make the thing pay, or if the stench drove out the doctor, or because the new method was declared a dead failure in Paris, France, before the end of the same year in which it had been hailed as the New Messias, we are unable to say. The latter explanation, in addition to the stench it had caused, may be the more probable one.

It may not be improper to add some statements here which I believe are not as generally known as they deserve. Of all our domestic animals the sheep only is liable like man to suffer epidemic small-pox. The losses from the disease have been estimated to be from 25 to 30 per cent. on the average.

In the lymph from the sheep called *ovine*, like in that of variola of man, microparasites have been found in the shape of smallest spheroid corpuscles by Cohn, Haller, Keber, and others. Though homologous diseases they stand in no direct category to each other; never was small-pox observed to engender the pox in sheep and vice versa.

But the lymph of variola inoculated on cows or cattle has the same effect as from vaccine, and the lymph so obtained, a variola-vaccine lymph, re-inoculated on man, produces like pure vaccine, a local vaccine pustule without a general exanthema, and is of course considered a safeguard, protecting man against infection from small-pox.

The opinion formerly adopted of the self development of *ovine*, counts at present hardly a single supporter. It is considered a poison, *sui generis*, and is derived like small-pox from subjects infected with the same disease. The ovination or inoculation of the lymph from the ovine, the pox of sheep, was formerly much in vogue as a protection against the much feared pox epidemics amongst sheep, but the losses experienced hereby have caused an abandoning of this pernicious prophylaxis. Amongst other animals, the pox of horses have only received a certain consideration, because Jenner believed to find in them the origin of cow-pox. But there is hardly a doubt that the horse-pox is derived from men.

Equally so is the origin of the veritable cow-pox to be derived from the vaccine or variola of man. Though the poison of variola is volatile and not like the poison of the vaccine of a fixed nature, the small-pox *(variola humana vera)* inoculated in the cow produces nevertheless the true cow-pox, which revaccinated in man begets the common vaccine pustule (Gasser, Sunderland, Thiele, Ceely, Badcock, Senfft, etc.).

The variola-vaccine thus engendered resembles the true cow-pox or vaccine, it is said to be merely a little more intense. The opinion that the cow-pox be derived from the variola or vaccine of man is supported further by the following:

1. Cow-pox has been observed only on milk cows.

2. The pustules are seated exclusively on the udder of milk cows.

3. The appearance of the pustules takes place foremost in those months in which vaccination is mainly exercised.

4. The development of the pustules on the udder happens at intervals and in batches.

5. The cow-pox appears most frequently where vaccination has been made compulsory, or in small-pox epidemics.

The conclusion hereby arrived at is, that the so-called original cow-pox does not exist, but is always engendered from external causes, commonly from the infected hands of persons who had been milking.

What sense can there be, then, in the defense of vaccination, to talk of a degenerated vaccine, or to insist upon a fresh collection of it directly from the cow?

Are the disciples of vaccination, then, not forced to the conclusion that such a cow-lymph has to be of less energy in having previously gone through the system of the animal?

Since variola lymph, if inoculated in the cow-udder, merely engenders cow-pox, which has no more of the former character of the variola, the conclusion will most certainly be justified that the cow-pox lymph can have no superior qualities than human vaccine. As protectives against the infection of small-pox, both are, as a matter of course, equally ineffective.

Bollinger, the author of an Essay on Vaccination, from whom I have taken some of the foregoing statements, inquires: which might have appeared first, the sheep-pox or the small-pox? I believe this question may be answered with: Since sheep have been created previous to man, sheep-pox ought to rank the small-pox.

Bollinger also mentions intra-uterine vaccination, whereby the fœtus was to be protected against small-pox. He calls this proposition absurd. I cannot see it in that light. There is certainly no more absurdity in vaccinating the unborn, par distance, than in the vaccination process after birth as prophylactic means against infection with small-pox.

Besides, our author believes to have discovered a proof of intra-uterine small-pox (variola sine exanthemata) of a fœtus in the case of a pregnant woman, 22 years of age, who, whilst suffering from an attack of confluent small-pox, and being delivered during the period of exsication of a child which, though it had no signs or indication of having suffered small-pox in utero, was still thus considered protected on account of vaccination, three times performed on it, remaining without any reaction, and though living in a room amongst other small-pox cases without becoming infected.

If he admits this as a fact proving the theory, he has also to admit the consequences. To what singular conclusions such observations may lead we find, for instance, with Underhill, who having vaccinated successfully a woman eight months pregnant, remarks: "Her child being four months of age, was vaccinated but without reaction, therefore in vaccinating a pregnant woman the fœtus will become immune to vaccination."

The immunity in general against variola or vaccine is also here explained by considering such persons to have suffered either variola or vaccination during their fœtal or intra-uterine life!

Can any mental condition but dementia beat that?

Alike there is only one step from the Roman capitol to the Tarpejian Rock, so is the serious often not far from the ridiculous. What would become of an administrative supervision in case this intra uterine vaccination or even the theory of a "Variola sine exanthemate" would be admitted? Can a pupil in future be refused admittance into a public school, because that pupil does not present the cicatrices on the arm? Can the pupil still be tabooed if the certificate of the medical practitioner states: Vaccinated and revaccinated during fœtal life per intra uterine operation? Parents who are adverse to the compulsory tomfoolery of vaccinating ordinances might profit by this.

I will now produce from official sources and from different documents, the proofs of the utter worthlessness of revaccination, establishing sufficient evidence for the overthrow of all the assertions made at one or the other time in defense of the following views:

That epidemics of small-pox, after the institution of vaccination had become diminished in number, magnitude and severity; that the mortality from small-pox had much decreased; that small-pox attacking a person once vaccinated would not only change its severe character, but would protect the patient against small-pox for a life time; that vaccinated persons would not be attacked as easily as persons not vaccinated; that small-pox epidemics could by vaccination be almost instantaneously arrested (as asserted by Sacco, Pessin and Snow); that the security against infection of small-pox increased with the number of vaccine pustules or marks, at least for a number of years and that such marks ought to be at least five in number; and finally *that a person having once suffered small-pox could not be affected any more by vaccination.* I do not intend merely to disprove all and every assertion here mentioned, but will give such undeniable and satisfactory proofs, that in a person vaccination can be repeated almost

every three weeks, and thus *ad infinitum* with equal success if only the proper vaccine has been used, no matter if the person has had small-pox or not; that therefore, the method of vaccination or revaccination, be it with cow-pox lymph or so-called humanized vaccine, if used as a protection against small-pox, is, to say the least, a blunder; that finally this method may under circumstances become dangerous if not an irreparable injury, and that therefore under all circumstances it ought to be relinquished "*poco di matto*" as a great mental delusion.

Notwithstanding the large area over which vaccination had extended in a few decades; that vaccination had become popularized and even being made compulsory in Germany, Sweden, Norway, Denmark, parts of England and of this country, epidemics of small-pox did not cease to exist.. Nearly all over Europe epidemics were experienced quite as severe as in times when vaccination was still unknown, yea, the epidemics were even more severe in some of those parts than in regions where vaccination was unknown and had never been exercised.

Though we do not know the contagion of small-pox past dispute, nor the reason why at times the disease may spread, still full evidence has been procured that small-pox epidemics depend upon certain *physical influences* even if we have not succeeded in defining them more precisely. Starting from this incontroveritble truth, it must be obvious that vaccine or vaccination can have no influence upon the appearance of small-pox. The fact that the proletarian classes present the majority of cases of small-pox, has been explained by the want of vaccination. But if we grant that unvaccinated persons as a rule belong to the pauper classes, we ought not to forget the important factor that these classes are besides characterized by a want of that resisting physical power so necessary in the battle for life, as a protection against disease in general, and most so at a tender age; we ought therefore not to be astonished at all and at a loss to explain the greater mortality amongst the unvaccinnated paupers.

In regard to the much talked of diminished number and security of small-pox after vaccination, I will give here a trust-

worthy and correct report from the St. Louis Hospital for Small-pox of the year 1870 (from November 1869, to May 1870):

Admitted there were in toto 326 cases:

| Vaccinated. | | Not vaccinated. |
|---|---|---|
| Confluent malignant cases.. | 9 | " " 17 |
| Confluent..... | 55 | " " 54 |
| Distinct..... | 90 | " " 40 |
| Varioloid..... | 55 | " " 6 |
| | 209 | 117 |

What does this prove, but that with the exception of a few more malignant cases among the non-vaccinated, which in relation to the vaccinated were not more than 3 to 5; the unvaccinated presented only a little over half the number of the vaccinated inmates, and were even of a milder type, having of varioloid only 6, while the vaccinated presented the high number of 55 of such, which is *the reverse of what has been asserted in favor of vaccination.* It is a result which cannot speak more loudly in favor of non-vaccination.

In Sweden, with compulsory vaccination, we find officially that in the year 1801 (prior to vaccination), 600 persons per million died from small-pox. The mortality has since gradually increased so, that in 1874, the population being a little over 4,000,000, 4063 persons died from small-pox, an increase of more than 400 per million inhabitants (Spinzig.)

According to other authorities, we find the calculation of mortality extending over a greater number of years, does not vary much when compared with the time prior to vaccination.

In Würtenberg, the eldorado of vaccination, where it is said that not 1 in 600 will escape revaccination, we find recorded from 1854 to the year 1868, 12,901 cases of small pox, with 952 deaths, or a mortality of 7.3 per cent. If we compare this number with that of the period prior to the introduction of vaccination in Stuttgard, the capital of that kingdom, from the year 1786 to 1796, we find nearly the same death rate, 1003 (being greater by 51). The celebrated Dr. Heim gives us the number of cases of variola and varioloid after vaccination

in Würtenberg, from 1831 to the year 1836, of subjects ranging from 1 to 35 years of age, as follows:

Variola, 186 cases; varioloid, 869; total in 5 years: 1025. And such is the result after every two years of revaccination (!)

In the Royal Infirmary of Edinburg, during the epidemic of small-pox in 1863, we have the following:

| Age. | Cases. | Vaccinated. | Not vaccinated. |
|---|---|---|---|
| From 10 to 15.... | 34 | 18 | 15 |
| " 15 to 20.... | 66 | 42 | 17 |
| " 20 to 25.... | 106 | 68 | 29 |

Etc., Etc.

At the General Hospital of Vienna, Austria, during the epidemic of 1863, we have the following record of cases of small-pox admitted:

| Age. | Cases. | Vaccinated. | Not vaccinated. |
|---|---|---|---|
| From 11 to 20 ... | 2,634 | 2,228 | 406 |
| " 21 to 30 ... | 2,671 | 2,329 | 304 |
| " 31 to 40 ... | 406 | 354 | 52 (!) |

Etc., Etc.

Do we want better proofs, that vaccination, as a preventative against small-pox, is a *lie*?

Though the mortality is not given here, will anyone surmise, judging from the great decrease in the number of small-pox in the unvaccinated, that the mortality is also in a minimum.

In Paris, France, where as we have seen, the vaccine had been taken directly from the heifer, after the old vaccine had ceased to give the expected protection and was therefore considered degenerated—what was the result? The number of deaths exceeded *twenty times that experienced in previous years* and the consequence was, that the heifer experiment was abolished in the same year it had been introduced with so much enthusiasm the Frenchman is known for.

In London, England, since the enactment of the vaccination laws, since vaccination has been provided for gratuitously and made obligatory, we find in the Register General's reports the annual average death rate diminished, but the calculation is based only upon a comparison of 3 years previously to the

the compulsory ordinance, while of the latter period. where 13 years where counted, we find this quite different. In looking somewhat closer into this disreputable cheat's own reports, we find the number of deaths after the compulsory ordinance far in excess in comparison with an equal number of former years. Such is falsifying history and deserves our utter contempt.

In this country there is hardly a city wherein vaccination has not more strictly been observed than the city of the Quaker. In Philadelphia, since 1860, almost every year about 9000 successful vaccinations were performed, with an average number of deaths from small-pox of 519 per annum.

During 1870 and 1871 re-vaccination was carried on by compulsion to an extent almost unparalleled. In 1870 over 30,000, and in the next over 18,000, persons were vaccinated, and *with the increase of vaccination it seems the number of deaths from small-pox did equally increase;* thus in 1870 there were 1879 deaths; in 1871 the mortality increased to 2585! These numbers are given by the Board of Health, therefore reliable. If we compare them with the 519, the average number of the non-vaccination period, we might, on being informed that the city ordinance making vaccination obligatory be still in force, fall into a state so vividly described by Virgil with "*obstupui steteruntque comae, vox vaucibus haesit.*"

This report of the Board of Health is interesting still in another respect; it says that "most of the deaths came from those wards of the city of overcrowded, badly ventilated habitations of the pauper classes, classes of people depraved morally and physically," and the number of deaths were 3 times larger than of the better classes, notwithstanding the much praised re-vaccinations; corroborating therefore what I have already mentioned above, that *something else is wanting but vaccination to resist the inroads of small-pox.*

The same condition we find everywhere. Thus in London, during the epidemic of 1871, the number of deaths from small-pox registered, amounted to 7876 (!) notwithstanding the strict "compulsory vaccination ordinance."

Thus has vaccination been accepted as the pathological substitute for small-pox, whilst both have nothing in common, are

separate and entirely different diseases; one being a local, the other a constitutional affection, and one has as much influence upon the other as the man in the moon has upon flow and tide on our globe.

I now have still a small chapter for those dyspeptic croakers who deny the fact that vaccination can be made effective and will run its course whether small-pox has preceded it or not; which chapter will probably interest Doctor Fisher more than the balance of this paper. In the army of Würtemburg out of 13,681 soldiers, we find the degree of success of vaccination in an official table as follows: In 7845 cases with *normal cicatrices*, the result was perfect in 31.04 per cent, modified in 28.05 per cent., none in 40.92 per cent. Of 2025 cases vaccinated but with *no cicatrices* from vaccination or small-pox, perfect 33.73 per cent., modified 19.13 per cent, none 47.16 per cent.

*Bearing marks of previous small-pox there were* 266 *cases, and among these the result of re-vaccination was perfect in* 31.95 *per cent., modified in* 24.81 *per cent., none in* 43.23 *per cent.*

The number of cases of re-vaccination with previous small-pox resulted successfully, and was even larger than those without a success, or even of normal and defective cicatrices (!) *Here then we have on a large scale, the proof, that vaccination does not interfere with small-pox*,—what, moreover, could have been expected *a priori*, since the two processes have nothing in common. And yet vaccination and re-vaccination continue to be compulsory in otherwise enlightened countries, and are defended by men claiming superiority of judgment! Should we not despair of human progress? And with such facts before them as the above, published in Simon's reports, not one of our scientific heroes thought it worth while to continue and extend those experiments of re-vaccination, in order to find out if there existed a limit or not. Of all the fallacies I undertook to overthrow, there remains but one: the *influence of the number of cicatrices*. If this was really of any consideration, the report of 1836 on vaccination of the recruits of the Army of Würtemburg will decide it. Of cases with 2 cicatrices, the percentage of success of a complete re-vaccination was 26.5 per cent.; with 3 cicatrices, 26.4 per cent.; with 4 cicatrices, 28.8 per cent.;

with 5 cicatrices, 27.7 per cent.; with 6 cicatrices, 26.9 per cent.: in the modified it was nearly the same, or 61.4 per cent. on a general average, while the failures amounted only to 38.6 per cent.; and of 3 persons with 7 cicatrices, although not very distinct, there were no failures, but 66.6 per cent. of a complete, 33.3 per cent. of a modified success (!)

The tables extant of Mason and Simon, by which they try to prove that the fatality of small-pox diminished with the number of cicatrices, so that with 4 or more cicatrices the mortality would be less than ½ per cent., do not deserve the least consideration; they are nothing but a lot of illogical rubbish. Of a similar character are the observations of Deutchbein and Loeffler, published in the *Berlin Clin-Wochen-Schrift.*

I will now present my own experiments, which I instituted with a view of ascertaining the limits of re-vaccination, the influence of the numbers of pustules, of cicatrices from vaccination, and the substance of the relation between small-pox and vaccine. In January, 1865, occupying temporarily the office of City Physician, and having in charge the Boys' House of Refuge, I selected 30 healthy boys, between the age of 8 and 14, to experiment on. The majority of them had never been vaccinated; at least no marks were recognized; only 4 had distinct cicatrices, 3 on each arm, and 4 had marks from small-pox; there was also one of the boys who asserted that he had had "the pox," but no marks were visible. I had procured some scabs from healthy children, not being able to obtain fresh lymph. These were triturated with some glycerine in an agate mortar, and made use of instead of the fresh lymph. Every one of the boys received two incisions on each upper arm, below the insertion of the deltoid muscle. In 7 of the boys the vaccination was perfect. Amongst that number were 3 who presented the marks from small-pox, from which they had suffered one and two years previously. This number contained also the boy who pretended that he had suffered from pox three years before, though no signs were visible. The vaccination in all 7 boys was free from disturbance. Between the 8th and 9th day I re-vaccinated the balance of the boys, to the number of 23, taking the vaccine virus from such boys,

previously vaccinated, who presented the best filled vesicles. Again in 9 of this number, vaccination had a proper effect. Thus 14 remained, on whom the process had again to be tried, as soon as fresh vaccine could be procured from those lastly vaccinated. In 5 boys vaccination succeeded in the third attempt, leaving 9 boys for another trial. Meanwhile the 7 boys in whom vaccination had been successful at the first trial, after the scabs had fallen off, were re-vaccinated, and with perfect success in all 7. Success in vaccination depends a great deal on the place in the skin selected and the manner of incising, or puncturing. If the lymphatics should be wanting, or the incisions made too deep, so that they bleed, vaccination may fail—be abortive. Of the 9 boys left from the third revaccination, another effort succeeded again in 3, so that 6 were left who had resisted now 4 different vaccinations with different vaccine matter. Meanwhile the second lot of boys had been re-vaccinated, of which number 6 boys had presented themselves again fit subjects for successful vaccination.

The 3 left here, came later again under the lancet, and after two unsuccessful trials with one of them, were finally placed on the list as perfectly revaccinated.

Of the 6 boys who had so far resisted all attempts made, the fifth trial took out 4 at once, and with as perfect a success as could be desired, so that only two of the original 30 remained for further experimentation. During the interval I had not only the third lot revaccinated successfully with one exception, but the first lot of the original 7 already twice vaccinated, had a third time been operated upon and with a failure of only in one case, a boy, who, at that time suffered from an attack of dysentery. This I found out but the next day after the vaccination had been performed. He recovered, though he did not come under the knife again. I might have finally succeeded in vaccinating the last two boys, though they had put at defiance so far five different vaccination trials, had my official career as city physician not come to an abrupt end. I was appointed to vaccinate the young ladies in the Upper District High School. On my going there I met a boy of a friend of mine, who had been previously vaccinated and suffered an

erysipelas, which comprised nearly the whole extremity. I took him with me and finding the young ladies all prepared for the frivolous fray, presented the boy's arm, when down went the sleeves, and not one of the young ladies wanted to be vaccinated any more. I complimented them for their good sense, but that compliment cost me my position as city physician. Some of them who since married and are now mothers, will, I hope, never forget that arm, and so at least my martyrdom may have done some good.

When I had to discontinue my experiments, I had then in the short time of not quite three months, vaccinnted 7 boys, three times with perfect success, while 21 boys more were vaccinated and once revaccinated with perfect success, and of 30 boys, with the exception of two, all were vaccinated once, though *repeated trials and different kinds of vaccine* had been necessary to accomplish that object. The unavoidable conclusions I have arrived at are, that a successful vaccination is but the result of local inflammation, caused by the introduction of decayed animal matter into the skin, resp. the lymphatic vessels; "*Ubi irritatio ibi afluxus*;" that according to the nature of the vaccine and the singular disposition of the person in the majority of instances a local, septical, small abscess is caused, to be cast off again in time, without in the majority of cases, leaving any bad traces behind: and that vaccination can be undertaken repeatedly and successfully at short intervals, with one or the other vaccine virus, no matter whether the person has suffered previously from the infection of smallpox or not, with which latter process, being a septical poisonoing of the blood, associated with a general disturbance of the whole nervous system—marked by a high fever, pain in the head and back, and an eruption of the skin extending over a greater or lesser part of the whole body, but particularly over those parts mostly exposed to light, as the face and hands—it has nothing in common.

In those boys, well pitted from previous attacks of smallpox, revaccination met each time with perfect success; this experiment being repeated and following each other in quick succession.

Notwithstanding the extensive, careful and minute examinations of Keber, Coze and Felty, who have come to the conclusion, that vaccine lymph and variola lymph do not differ much from each other, we know from their distinct effects that nothing is gained by these analyses. It is not so rare that two substances may resemble each other physically, yet differ greatly in their effect, just as two bodies, apparently very dissimilar, may be of the same elementary constitution.

The destruction wrought by small-pox during the centuries of our era is judged to amount to the enormous number of 45 millions of human beings.

When Jenner appeared with his inoculation proposition, this came very opportune. Under the total helplessness of the times against that scourge small-pox it was so eagerly taken hold of, that in scarcely two years it had almost gone the rounds of civilized Europe, and it may be considered somewhat strange that the favor with which it was received has nowhere been generally withdrawn. If we inquire into the cause of this singular spectacle: so general an acceptance of the prophylatic power of vaccination; the cause upon which that popular belief in its virtue was and still is based, the universal practice rests, and the conviction of its value is derived from; if we cannot help but acknowledge at the same time the facts that there is no conviction, because a conviction implies a previous mental exertion which we cannot expect from the mass of the people; we arrive at the conclusion, that we have to deal here with the following factors: prejudice, custom, an inherited belief, alarm, fear from an impending epidemic, "the possibility it might do good, because other people do it, the government orders it, consequently it must be wholesome; besides, it can be had gratuitously." Such and similar answers have to serve in explanation and take the place of reason and judgment. Let us look now at what is said of the *opponents* of that "popular practice." "The opposition is with them traditionally, an hereditary negation, the animus opponendi," "such persons" a celebrated vaccination author says "think for themselves, but, nevertheless, somehow or other the conclusion they arrive at is not the same

as that of other people." (!) He calls them "eccentric," and to argue with them "labor thrown away." Another class of opponents, he characterizes as "dishonest, suppressing some truths, exaggerating and misstating others; from them the cry of danger proceeds"; another and more important class of objectors, is composed of "thinking men, but their reasoning is illogical, having heard only one side of the question; they are unaccustomed to value evidence; judge on insufficient grounds; drawing inferences from too limited data, otherwise they are honest." And we too are not forgotten as a professional class. "Where to place that fortunately small class of medical men who doubt," he does not know, but he accuses them nevertheless of "illogical reasoning." It is a common trick of thieves, in trying to escape, to raise the hue and cry of "stop thief!" "Illogical reasoning?" It is at least reasoning; but where do we find that amongst our men of faith? With that nice anthology with which our author has dignified our opposition we can be satisfied. I, for my part, would not like to sit with him on the same bench. The main author to whom I refer here is Ballard, of England, who, in 1868, has written an essay on the subject —a prize essay besides—which has been crowned, "as the best which has appeared in that line." I may therefore be excused in presenting to the reader a few more extracts from that perspicuous, contemplative and philosophical author of immaculate vaccine conception, who, penetrating with a firm, resolute, infallible mind, the inexhaustible, inscrutable and mysterious depths of the vital power of the human organism, concentrated in an epidermoidal cell, and who in unfurling the banner of an inscrutable, mysterious logic and veracity, maintains "that mortality from small-pox has decreased through vaccination; that small-pox epidemics have become comparatively of a mild character, and that epidemics of small-pox have even been arrested by vaccination and re-vaccination, if rapidly undertaken." It would be impossible for the limited space of this article to scrutinize this ill-fated prize essay more closely, and give it the attention adequate to its deserts, but a few passages more quoted will score sufficient to exult in, without exhausting the patience of

the reader. "The areola around the vesicle, be it in small-pox or vaccinia, is"—with our author—"an incontestible proof of a constitutional operation of the virus" (!) Is this not rather an incontestible proof of ignorance of the most elementary knowledge of pathological anatomy? He further explains: "because if it was caused by the irritation or determination of the blood it occasions, the introduction of other irritants into the tissue of the skin would occasion a similar phenomenon." (He seems never to have observed a pustule produced by tartar emetic, or even from an inoculation of syphilitic virus!) And he is the more induced to see here the consanguinity of small-pox and vaccinia, because the areola besides commenced and developed at precisely the same period in both (!); and singular to say, the effect of the mentioned substances (tartar emetic and syphilitic virus) show the same interval also. Speaking of the "modus operandi" of the virus, he unfortunately hits upon a comparison with the yeast plant, which in its growth and multiplication does away with the sugar in the infusion of malt. Yet as we have seen that vaccination can be repeated successfully *ad infinitum*, the comparison limps fearfully, and more so in comparing it with small pox where, after the process is ended, it cannot be repeated. In his exertion to explain the "modus operandi" of small-pox after inoculation, he finds it singular that the virus first appears in selected spots, before the general eruption breaks out, and is deferred until the 7th to 8th day, to explain which, he suggests an analogy in natural history of "living particles of germinal matter, the entozoa, wherein comparative anatomy has shown from the ovum set free, several stages of development before the complete animal is developed, *i. e.*, capable of reproduction of its species; that as long as the condition in which the being lives remains unaltered, so long the stage of its development remains in *statu quo;* but when the conditions are changed, the stage of development is advanced. Between the two stages, the the ovum and complete animal, the forms of the intermediate stages may be so unlike that nobody would recognize their relationship." I need hardly explain that our author here has reference to the cyst worms, to animals and their complete

metamorphosis, the tape worm in man, or the fluke of molluscas, the larvæ of the dystoma in the liver of higher animals, of the sheep or ox, for instance, "where it finds the last resting place." "So" he holds, "it may be with the inoculated small-pox virus, at the spot where the virus becomes arrested, it attains its complete development, and there it generates until all the transformed material in the blood has been removed or is eliminated and the nervous phenomena which its presence in the blood occasioned, cease and the fever subsides." So our contemplative author believes the inoculated virus of small-pox operates locally and constitutionally (!) and may it "find there its last resting place," till, to use his own words, "some sheep or ox will swallow it;" it may even for such animals be hard to digest. The "*vaccine virus*," the speculative author thinks, "operates *locally* precisely in the same manner as the small-pox virus, and to a certain extent, constitutionally also." With regard to the so-called secondary eruptions, which have been observed occasionally, it is doubtful if they have not been eruptions caused by small-pox virus in the form of varicella, which would be nothing extraordinary, since the two processes, as I have shown, have nothing in common and may exist, yea, have been observed to exist, together. He defines, besides "vaccinia, a disease not natural to man, which did not thrive in the soil of his body, that soil being foreign to it." It seems our author has to utter some nonsense wherever there is room for it. The pabulum, he says, "is the same as exists for small-pox virus, but the climate is unfavorable, it refuses to feed upon it to the same extent. The virus does not thrive in the blood, although it thrives at the place of puncture." He thinks if large quantities of vaccine were injected into the system, into the blood-vessels, or lymphatics, then a secondary eruption might follow, as in the horse, where the experiment was tried with the horse-pox. Who will doubt that with such a horse dose, an extended lymphangietis with a vesicular eruption might be produced? "The virus—according to our prized author—will exhaust the system of the pabulum or material for transformation, so that the subsequent introduction of a second dose of virus produces and can produce no effect."

I have shown by my experiments how much this assertion is worth. His confusion in considering both processes alike, induces him to explain "the system is no longer susceptible of its influence; thus, in a patient who has undergone an attack of small-pox, an attempt of inoculation of small-pox matter is fruitless; he is protected. If we produce in any person the vaccine disease, he is protected against vaccine virus. We inoculate small-pox fruitlessly." A wrong conception from A to Z, repugnant to common sense, and in conflict with reality. Protection against small-pox is obtained by a contagion having affected a part of the blood which undergoes a decomposition or alteration, and of which nothing remains to sustain the process, consequently no reaction can follow a renewed introduction of the contagion of the same virus; whilst in vaccinia a local, not a constitutional affection, the process might repeatedly and successfully be tried as often as the regressive, decayed animal matter, forming a septical, gangrenous, small local abscess, is introduced on the locus minoris resistentiæ, where, according to the old maxim, *Ubi irritatio ibi afflu.xus*, its presence will be established.

Vaccination, as a protective measure against small-pox, has forfeited its claim to the confidence of every clear-sighted man. Whether it would be therefore in the general interest of mankind to abandon its practice totally, altogether, cannot longer be doubted. The protecting qualities of vaccine are based on error, which under circumstances may become even fatal. That syphilis has been transmitted in this manner, there are numerous historical proofs; whether other diseases as tuberculosis, scrophulosis, etc., have also been conveyed from one into another organism, is yet an open question. What shall we, after after all this, say of a government which makes vaccination still compulsory? and is it not the worst kind of absurdity to punish persons for performing vaccination "*carelessly*" with a fine of $120 or three months imprisonment, as in some parts of Germany, whilst every person, parents, guardians, who do not bring their children to the vaccinator, are fined eight dollars and three days imprisonment? Such ridiculous, stupid, penal statutes are an outrage on common sense, and most so in a country which boasts of

its civilization, and glories in the name of "the land of the thinkers," a land where hardly one in a hundred escapes vaccination and re-vaccination and then has still to record epidemics of small-pox of a more or less violent character.* The amount of money paid in England for re-vaccination is said to amount to 1,500,000 dollars. When we consider the number of people killed, or crippled for life, or made unhappy, we are at a loss to express what we feel for governments like those of England, Germany, Sweden, Norway, and Denmark, where vaccination is still compulsory, when it rather should be considered a criminal offense to practice it. May it never be said of our great republic, at least of its general government, that it has passed laws to make vaccination obligatory, though I am sorry to say the attempt has been made in some State or other. Witches are burned and drowned no more, the fagots, "faith's solitary pyres" of the Inquisition, are nowhere to be seen, how long will it be before the vaccination evil will become extinct and passed out of sight? I believe it useless to say one word more. Still it is distressing to find medical men yet so ignorant of the history of a practice they so often come in contact with, and it is even more deplorable to see them trying to make capital out of that ignorance.

I will close these pages with the hope that they may do some good, and in taking leave of my medical brethren in Boston, remind them of an epitaph proposed by a witty disciple of the medical art, to Jenner, the great apostle of vaccination:

> "*Homo vanus et levis,*
> *Cerebro vacuus et temerarius,*
> *Mente et judicio carens,*
> *Scientiam profanisti,*
> *Terram perdidisti,*
> *Populum occidisti.*"

## APPENDIX.

### A LAWSUIT FOR CARELESS VACCINATION.

The Berlin *Klin-Woschenschrift*, Nro. 27, for this year, brings the authentic report of a lawsuit against Dr. D., Sanitary Councillor of Lyck, Prussia, for careless vaccination, *in consequence of which fifteen children are said to have died.*

* The appendix will contain the case of the German physician I had reference to in the beginning of this article.

The Attorney General on the side of the prosecution petitioned the Court for a judgment of 5000 marks (1250 dollars) and 6 months imprisonment. The Court decided on a payment of 1000 marks without a further corporeal penalty.

We will give here an extract of the case: Dr. D., a practicing physician of Lyck, and one of the signers of a petition to the government for the repeal of compulsory vaccination, was authorized by his superiors to perform general vaccination in his district. After obtaining the vaccine from the government of Kœnigsberg, he proceeded to vaccinate some children, and having collected a sufficient quantity of lymph, began general vaccination in the village of Grabnits. He commenced on the 19th of June last, to vaccinate 90 young children, and 60 elder ones, ready to go to school. At the same time cases of scarlatina had appeared in the village.

A few days already after he had commenced to vaccinate, there appeared amongst some of the youngest children an erysipelatous inflammation on the vaccinnated spots, the glands in the armpits began to swell, ulceration, abscesses began to form, associated with an eruption resembling measles or scarlatina over their bodies.

In all, 53 of these children took sick, of which 15 died during a period of time from 6 to 8 weeks. A post-mortem had been made on 5 of the children and two of them were pronounced to have died from a resorption of pus; in the 3 others scarlatina was assigned as the cause of death. These post-mortem examinations had been made by an expert of the government. Of the elder children not a single one had become sick.

Amongs the witnesses, a number of the mothers of the dead, had testified that the vaccination incisions had bled a great deal; others stated that the doctor had taken vaccine from a child with a scab on its forehead and an eruption on the skin, and the vaccine taken from this child he had mixed with his other: though on the day of inspection some of the children had already presented ulcerations and eruptions, the doctor nevertheless gave a certificate setting forth that the children were "properly vaccinated."

The doctor himself stated, that he had made use of this same

vaccine at a later date and had never observed similar results. A portion of the vaccine was sent to Berlin for examination and there declared to be in a state of decomposition, containing living organisms and therefore considered improper for use. The Sanitary Physician declared that the death of two children had been caused by using vaccine in a state of decomposition, which besides had been taken from a scrofulous child (!) whereby the extensive, large cuts had also to be taken into consideration. Dr. D. believed that bleeding in such cases was very common and often unavoidable; he had never seen any harm done by it. The doctor denied the decomposition of his lymph at the time he had made use of it. A part of the sickness he attributed rather to the customary action of the mothers to suck out such wounds to prevent the action of the vaccine from taking place, also wiping the vaccinated spots with their dirty fingers. The dirt of the arms of those children, in one or the other, might also have caused infection of the wounds; besides, he thought that the scarlet fever might be sufficient to have caused the death of these children, without any blame resting upon the physician.

He had a witness in the person of the school teacher, who had accompanied him on these visits and who stated that "the doctor had always used a small brush, which he dipped in the vessel containing the vaccine, to arm his lancet with."

An expert of the Government, Dr. Pincus, "Geheimer Sanitäts Rath" ("Secret Sanitary Counsellor"), gave it as his opinion that much bleeding was against the rule and ought to be reprobated as a technical incapacity, indicating too great a haste in performing the operation. It besides caused unnecessary pain to the children, and would often flood away the vaccine." (It would have been better for the doctor if the vaccination had not had an effective result.) "Dr. Pincus considered the taking of lymph from a scrofulous child and mixing it with the balance of his other lymph imprudent and unpardonable. He could not comprehend that the doctor had not vaccinated from arm to arm, and not oftener renewed his lymph, instead of taking the old one, which certainly would in time decompose and putrefy from the

heat and exhalations of the localities; though such a lymph might retain some of its efficiency, still it might have caused the erysipelatous inflammations and poisoning of the blood. With regard to the death of these children he could not conscientiously decide upon. Yet he thought that as the only cause of the sickness and death could be considered the vaccination with a lymph in the state of decomposition. The scarlet fever as a cause of death he had to deny, since no bad influence from it on vaccination had been observed in other localities where that fever was prevalent. But in regard to the decomposed lymph every objective proof was absent, since the doctor had used the same lymph afterwards without it having produced similar symptoms. The examination of the lymph in Berlin, several weeks later, could not be considered as conclusive evidence, since decomposition might have taken place during that space of time, etc."

Another expert, Prof. Müller, on the contrary, thinks that the prevailing scarlet fever might have been an important factor in causing this erysipelatous inflammations and the death of these children. Just like in cholera epidemics, where diarrhœa would frequently be observed, so might even slight wounds of the skin produce such an erysipelatous inflammation.

Finally, it may be mentioned that for none of these children who died was a physician employed, and the first knowledge that the Government received was through the report of the Mayor of the village.

Nevertheless the Attorney General of the State charged the accused with a gross and careless killing, respectively a serious bodily lesion, and prayed for an imprisonment of the doctor for six months and a penalty of 5000 marks. The court of justice reduced the amount of fine to 1000 marks only, on account of a careless performance of vaccination. Both parties have taken an appeal.

A further comment on this "cause célèbre" is superfluous, but the sooner such tyrannical laws of compulsory vaccination are repealed the better will it be, and the more in accord with the spirit of the enlightened 19th century.

## A Case of Fibroid Polypus of the Uterus.

By THOS. J. ALLEN, M.D., Shreveport, La.

On the 15th of November, 1877, I was called to see Eliza M., a mulatto, æt. about 22 years, of healthy appearance, and rather below medium stature. She was reared to do house work, and possessed more than the ordinary amount of intelligence for one of her race. From her I obtained the following history: "I began to menstruate about the age of fifteen, and was always regular, but when near eighteen I became pregnant, and had an abortion at about the fourth month. My health remained good then for nearly three years. For the past year I have suffered greatly when my menstrual period was coming on, especially with headache. I am regular, but I think my courses stay on me too long. I have always been of a very constipated habit." Upon examination by the binanual method, the uterus seemed about four times the size of a non-gravid one. As there intervened but little adipose tissue, I was impressed with the hard and unyielding feel conveyed to the touch, both vaginal and rectal, much greater than usually obtains in ordinary hypertrophy of this organ.

Upon the introduction of the speculum (Nott's) into the vagina, the os tincæ was found ulcerated, and the neck of the uterus enlarged and indurated. I experienced some difficulty in introducing the sound, and, as the uterus bled rather freely, I could not make a satisfactory exploration. With the hope of obtaining a clearer insight into the cause of the enlargement, I introduced a sponge-tent and let it remain twenty-four hours; upon its removal considerable hæmorrhage ensued; the dilatation was unsatisfactory, and as the uterus had grown quite sensitive under the use of the tent, I did not think it prudent to push the examination further. I cauterized the os and neck, as far up as practicable, with nitrate of silver; applied the usual pledget of cotton wool wetted in glycerine to the os, gave the patient an opiate, and left her. On visiting her the following day, I found considerable constitutional disturbance—high fever and tenderness over the abdomen—the beginning of an attack of metro-peritonitis which followed. This I treated by rest,

opiates, fomentations and mild purgation. The attack soon yielded, but left the patient quite afraid of sponge-tents. She was put upon the following ℞: Potass. iodide, grs. 5, hyd. bichlor., grs. 1|32 in half an ounce of syr. sarsap. co., three times daily, and ordered to apply a blister over the womb when there existed much tenderness.

I visited this case twice afterwards, and applied the argent nit. at intervals of about a week, and ordered her to continue the treatment for several months if it appeared to improve her. She did so, and reported herself much improved. I was satisfied there was considerable reduction in the size of the uterus, or tumor if one existed at this time.

Her general health remained quite good until the summer of 1878, when I was called to visit her and requested to bring my uterine case as she feared a return of her old trouble. On July 30th I called and learned that for several months she had suffered greatly at each monthly period with headache and pains in the abdomen. Her courses would last ten or twelve days and then assume a muco-purulent character. The bowels had been most generally very constipated.

Upon examination I found a tumor occupying very nearly a central position in the pelvis and extending considerably above the symphisis; the right ovary was enlarged and quite tender. This growth in the pelvis had been so gradual that she did not remember when it began. She had lost considerably in flesh and had but little appetite. After a somewhat careful examination, *per vaginam et rectum*, I was almost satisfied of the existence of a tumor in the uterus and thought it most likely a submucous or intra-mural fibroid; it was quite hard, there was but little intervening adipose tissue and I thought I detected a slight lobulated feeling to it. Upon introducing the speculum there was considerable muco-sanguinolent discharge, the result of uterine catarrh, the os presented a very unhealthy appearance and was covered with granular erosions and was much indurated; a flexible bougie readily passed to the depth of four inches, but Simpson's sound had to be greatly curved to be introduced.

The nature of her condition being made known to her, I had little difficulty in obtaining her consent to use the tents, and this visit I introduced a moderate size carbolized sponge tent, but, remembering the trouble attendant upon a former occasion, I let it remain only eighteen hours; its removal was attended with some difficulty, so indurated were the os and neck that the meshes of the sponge became imbedded in the tissues and considerable hæmorrhage followed its removal. When the bleeding ceased I applied nitric acid, pure, to the diseased parts and introduced the pledget of cotton wetted in glycerine. No untoward symptoms followed the use of the tent except a slight ovaritis of the right side, which was relieved by the application of a blister. I repeated the introduction of the tents at varying intervals until six had been used, when their full capacity had been reached, I could then both feel and see the tumor. It was very hard to the touch and appeared quite vascular. I could pass the finger around it, but such was its size that I could not reach high enough to touch the pedicle, nor could I, after the most patient use of the sound, determine the size of its uterine attachment.

The weather being very warm, and the patient much exhausted from confinement consequent upon the introduction of the tents and the ovaritis, which invariably followed, I thought it prudent to desist from any further surgical interference. I put her upon ten grain doses of muriate of ammonia three times a day, ordered the glycerine to be applied to the os tincæ every night, and a large quantity of warm water to be injected per vaginam twice daily. This treatment was to be kept up for several months.

On the 6th of March last I called to see Eliza, and found her laboring under severe uterine pains resembling those of labor. She had just passed a catamenial period of about ten days in duration. There was still present a muco-sanguinolent discharge from the uterine catarrh. The os uteri was dilated to the size of a quarter dollar, and nature was endeavoring to deliver the tumor. These symptoms continued for several days, and her condition was rendered tolerable only when under the influence of an opiate. Hitherto I had been alone

in my examinations, and had only employed a modification of Nott's speculum, devised by myself, and wishing to advise with some one as to the best method of operating, I took my friend, Dr. R. A. Gray, to see the case with me, and we used Sim's speculum. The following plan of operating was agreed upon: to forcibly dilate the os to its utmost extent, then to seize the tumor with a strong volsella forceps and forcibly to extrude it, so that its attachment or pedicle might be reached and ligated. In order to effect the dilatation, the patient was placed upon a table in the dorsal position, the Nott's speculum was inserted, and through this a long tri-valved rectal speculum for forcible dilatation was introduced into the os, and it put upon the stretch. This was done quite slowly, and did not require the use of an anæsthetic. When we had consumed perhaps half an hour testing the dilatability of the os, we found that, owing to its previously diseased condition, one and a half inches was the utmost limit it would bear without a rupture, while two and a half inches was the supposed diameter of the tumor, and its hardness precluded the idea of compressing it. Upon seizing the tumor with the volsella, it gave the impression of a short and very firm attachment to the fundus uteri. As stated above, this examination was made without the use of an anæsthetic.

On April 2d, Drs. Ford, Gray and myself visited the case, placed her upon a suitable table and administered chloroform. After a careful examination, we resolved to try the removal of the tumor with the ecraseur and wire. "After (I will here use the expression of those who have tried it) great difficulty, we succeeded in adjusting the wire around the pedicle and began the process of tightening, and were succeeding finely when the wire gave way; we mended it again and again with a like result."

Thinking a large catgut string might be stronger, but having none at hand, we gave the patient a hypodermic injection of morphine and left her.

On the following day we returned, placed the patient upon the table and gave her chloroform, and proceeded to pass the catgut ligature, but in this we signally failed, for as soon as it

became moist, it seemed impossible to carry it to the fundus of the uterus.

I felt fully convinced that it would not do to longer delay the removal of the tumor and resolved to try, if possible, to twist it from its attachment. Having provided several pledgets of cotton, wetted in equal parts of Monsel's solution and water to be used in case of hemorrhage, I seized the tumor with a large sized volsella and endeavored to twist it. I thought I was succeeding well until I discovered a large piece of the tumor removed; there being but little hemorrhage, passing in again the volsella until I grasped, perhaps, a third of the tumor, I embedded them firmly, then with another volsella at an opposite point, I firmly fixed these and began slowly, but forcibly to twist the tumor upon its pedicle. Then to my great gratification I felt it turn in the uterus and very soon afterwards severed it from its attachment. There was no hemorrhage, the application of the erasuer and wire the day previous had doubtless prevented it. The removal of the tumor was then effected by dividing it up in sections with a strong pair of curvedscissors. When removed it weighed about five ounces, was slightly lobulated, almost the shape of an orange and had a very short pedicle of about an inch in diameter. I present it to you to-night and regard it as a beautiful specimen of a uterine fibroid polypus.

The treatment adopted was rest in bed, a light but generous diet, turpentine stupes over the abdomen with linseed meal poultices. The bowels being obstinately constipated at the time, in consequence of the continued use of opiates for several days prior to the operation, castor oil was first used as a cathartic in two drachm doses every three hours until the desired effect was obtained. A slight ovaritis of the right side, which yielded without any special treatment, was the only untoward symptom following the operation. The uterus was syringed out twice a day with one drachm of carbolic acid to one pint of warm water. It has now been over two months since the operation. The patient is up attending to her ordinary duties. She says that she has menstruated twice since, the last time without any pain whatever.

## Case of Foreign Body in the Windpipe.

By C. SHIVELY, M.D., Liberty Hill, La.

On the evening of Thursday, October 31st, 1878, I was called to see Anna, daughter of W. T. B., aged 15 months. On arriving I found the little patient laboring with considerable difficulty of breathing, accompanied with paroxysms of cough of a croupal sound. On inquiry the mother informed me that her baby was choked with a grain of corn; that some half hour ago she was giving it some milk with a spoon, at the same time it was playing with some shelled corn, and as she gave it a spoonful of milk it got strangled, and she supposed it had got a grain of corn down into the air passage. After examining its throat as well as I could, and not finding or detecting anything, I gave it an emetic of ipecacuanha, which soon produced copious vomiting; during the action of the emetic she threw up some fifteen or eighteen grains of corn, which gave no relief to the dyspnœ, but satisfied me to a certain extent that the foreign body was a grain of corn in the windpipe. I visited the child every few hours during the night and following day, and after trying all the usual means at hand to assist the natural efforts of the little patient to expel the foreign substance without any avail, and seeing the child was gradually growing worse in consequence of the irritation and infiltration produced by the presence of the foreign body in the air passage, on Saturday morning I informed the parents that I could suggest nothing towards the relief of their baby save an operation, open the windpipe and through the artificial opening endeavor to extract the foreign substance. To this they very readily consented, saying they were willing for anything to be done to save their child. I consequently sent for Dr. E. A. Crawford, who arrived in a short while. After consultation we concluded to operate as soon as possible, but after examining our armamentarium in search of some little instruments that we might need during or after the operotion, we found to our great displeasure that we had none, such as canulars, little curved forceps, or nothing of the kind for extracting foreign bodies from the air passages in case we should have to search for

it. Consequently we dispatched a messenger to Mt. Lebanon in haste, to obtain some little instruments if possible, and concluded to defer the operation until 4 o'clock in the evening, unless it should become necessary to operate sooner.

We watched the case closely, and about 3 o'clock in the afternoon we found the condition of the patient gradually growing worse; pulse 145; the breathing exceedingly laborious, apparently in consequence of a muco-purulent infiltration in the trachea; the prolabia and fingers showed commencing cyanosis; in fact, a glance at the little patient, even by no very experienced eye, showed that death by suffocation was imminent—that a few hours would likely put an end to the distressing scene without some intervention of relief. We fully explained to the parents the danger of death to the patient during the performance of the operation, and the doubt as to ultimate recovery, even should the operation terminate successfully. They readily consented and were anxious for the operation to be performed, saying that it was very plain to their common sense that, as it was, their little babe had but a short time to live, and that they were were willing to risk anything whatever promising the slightest hope; that if it should die upon the table, it would abridge its life but a short while, and its sufferings, to which death would be preferable. I now placed the child upon the table and chloroformed it, and with the assistance of Dr. E. A. Crawford, I proceeded to perform the operation of tracheotomy. Having the head held steady and inclined backward by an assistant, I made an incision on the median line in the lower part of the neck, about an inch or a little more in length, the upper portion terminating a little above the cricoid cartilage. After dividing the skin, fat, and fascia, the commissure of the sterno-hyoid muscles was exposed, which I carefully separated with the handle of the knife. The tracheal rings being laid bare, I detached the areolar investment with the handle and point of the knife: the hæmorrhage was slight, some veins being cut or ruptured, which were soon stopped with a pencil of lunar caustic. I now opened the trachea, by introducing the point of the knife in the lower part of the wound and cutting upwards, the isthmus of the thyroid gland being kept out of

harm's way. After completion of the opening through the windpipe, by the first expiration there was thrown out through the wound a considerable quantity of muco-purulent matter, and the second expiration expelled the grain of corn. The child now ceased to breathe, apparently from the exhaustion produced by the effects of the operation and etherization. We quickly opened the wound with some little hooks we prepared for the purpose, and turning the child upon its side, respiration was again established, and after the trachea became clear of the infiltration breathing became easy, and after the patient had somewhat returned to consciousness we removed the hooks and let the wound close. Approximating the lips of the wound with strips of adhesive plaster, and applying a weak solution of carbolic acid two or three times a day, keeping the room it occupied of an equitable temperature as near as possible, also keeping its bowels well opened, constituted the principal after-treatment. Notwithstanding some little trouble and difficulty in keeping the lips of the wound together, the little patient continued to improve, and is to-day, November 28th (twenty-six days after the operation), perfectly sound and well. No subsequent difficulty ensued; no sign whatever of paralysis has shown itself, and its voice is as clear and good as before the operation

## Recent Progress in Dermatology.

By GEORGE H. ROHE, M.D., New Orleans.

### I.—ACUTE EXFOLIATIVE DERMATITIS OF INFANTS.

[*Prof. Von Ritter*: Central Zeitung fuer Kinderheilkunde, October, 1878. *Cesar Boeck*: Vierteljahresschr. f. Dermatologie u. Syph. 1, 1878. *Behrend*: Ibid., 2 and 3, 1879.]

In most text-books on skin diseases may be found an account of a fatal affection which is described under the name of "Acute Pemphigus." The affection attacks young children only, runs a rapid course, and is in the majority of cases terminated by death. Prof. Hebra, of Vienna, and most dermatologists of his school, emphatically deny the occurrence of

pemphigus in an acute or epidemic form. Supporting the views of Hebra, Prof. Von Ritter in an elaborate article, describes the affection as it occurred under his observation in the Foundling Asylum of the city of Prague, and gives it the name at the head of this article.

The disease first appeared in the Prague Foundling Asylum, in 1868, since which date it has been almost a constant, though decidedly unwelcome guest in that institution; 297 children were attacked in the ten years; of these 150 recovered, 145 died, and the remaining two were still under treatment. Boys are oftener attacked than girls. The children attacked were nearly all between two and five weeks old. There is usually a prodromal stage manifested by abnormal dryness of the integument with desquamation of the epidermis, in the form of fine branny scales. The skin of the lower part of the face, especially about the angles of the mouth, becomes red and slightly tumid. The margin of the redness, which rapidly spreads, is indistinct, not being sharply defined against the healthy skin. At the same time the skin at the angles of the mouth becomes fissured and covered with scabs. The mucous membrane lining the pharynx and buccal cavity is reddened and the palatal arch is the seat of superficial erosions, covered by a grayish-white exudation.

The appetite and digestion of the infant remain unimpaired, and there is no increase of temperature. The redness and thickening of the skin extends over the entire body. The face becomes covered by yellowish translucent scabs upon a reddened base, intersected in various directions by fissures. The skin becomes wrinkled and the upper layer separates from the cutis. The epidermis may be detached in large flakes, or is cast off spontaneously. This process continuing until the entire surface is denuded of epidermis, presents an appearance similar to that following an extensive scalding. In favorable cases the dark raw-flesh-color of the cutis soon gives way to a lighter red, and in some cases the normal color of the skin is restored in 24 to 36 hours. In unfavorable cases, on the other hand, the color is a dirty brownish red, and the cutis becomes dry and parchment-like. In those cases which terminate in

recovery, the normal condition is entirely re-established in a week or ten days, the skin for a few days being covered by a fine branny desquamation.

As *sequelæ* of the disease, eczemas of considerable extent, or pea-sized and larger, superficial boils and abscesses, sometimes in large numbers occur, and delay complete recovery. At other times extensive phlegmonous infiltrations occupy considerable tracts of skin, and may result in grangrenous destruction of tissue and death. In the latter conditions pneumonia and colliquative diarrhœa not rarely precede the fatal termination.

Relapses are infrequent. When they occur the disease is of a milder type than originally.

Ritter considers the disease to be a manifestation of pyæmic infection, localized upon the external integument, and sometimes extending to contiguous mucous surfaces, as the conjunctiva, the mucous lining of the mouth, etc.

The diagnosis is easy, no other disease being liable to be mistaken for it. In erysipelas, which sometimes affects infants in a similar manner, there is always considerable elevation of temperature; this symptom is absent in exfoliative dermatitis. In pemphigus the bullæ are surrounded by a reddish border, separated from adjoining blebs by healthy integument. In exfoliative dermatitis the redness and thickening are progressive and occupy finally the entire surface. The bullæ of pemphigus appear in successive crops, while relapses are rare in exfoliative dermatitis.

The post-mortem appearances present nothing characteristic. The etiology is unknown. The disease is not contagious. There is no known means of prevention.

The treatment is purely symptomatic. Sufficient nourishment of the infant at the breast is of the first importance. Pure air, the room not kept too warm. Locally, cool baths, drying the skin with fine soft cloths and carefully avoiding friction will meet the indications in most cases. Ragged and loose patches of epidermis should be clipped off with the scissors, and all denuded and fissured surfaces dusted with finely

powdered calomel. The crusts which accumulate at the angles of the mouth and render nursing difficult and painful, are best gotten rid of by soaking them with oil of sweet almonds and carefully removing the loose ones by means of a dressing forceps. Baths of oak bark (80-100 grammes to one litre of water) one-half of this decoction to be added to each bath, are sometimes useful. In uncomplicated cases no internal medication is necessary. All complications will of course receive appropriate treatment.

Behrend gives brief notes of a circumscribed epidemic of the same disease occurring in a country district in Prussia. He criticizes the views of Von Ritter, and groups the cases as acute pemphigus. In view of the differences in the clinical history of the two diseases, the name given to the affection by Prof. Von Ritter and which heads this abstract, is believed to be most appropriate, being in entire accordance with the endeavors now being made, and nowhere with more energy than in this country, to give to dermatology a sound and rational pathological basis.

## II.—TRICHORREXIS NODOSA.

[*Schwimmer:* Vierteljahresschr, f. Dermatol, u. Syph. 4, 1878 *Cheadle and Morris:* Lancet, No. 6. 1879. *Sherwell:* Archives of Dermatology, July, 1879. *Desenne:* Bull. Gen. de Therap. July 15, 1878.]

In 1855, the late Dr. Hermann Beigel, in a memoir read before the Imperial Academy of Sciences of Vienna, described, for the first time, a disease of the hair characterized by the appearance of little fusiform swellings upon the hair-shaft. The hair, at the points where these swellings appear, becomes brittle and breaks easily, the broken ends having a brush-like appearance. In most cases the hair of the beard only is affected. In 1872, Devergie and Billi described several cases of the same disease, to which the former applied the name "Tricoptilose," suggested by the eminent philologist Littré. The name generally adopted by dermatologists at present is that given to the affection by Kaposi, and which heads this paragraph.

The disease, according to Schwimmer, who appears to have made a thorough investigation, consists in a disturbance of

nutrition of the hair, manifesting itself in constriction of the bulbar portion, partial destruction of the medullary substance, and the splitting up of the cortical layer into bristly fibres. The disease is not parasitic. A number of cases have recently been published in French and English journals under the designation: "*Pidras, a new parasitic disease of the hair.*" The weight of the evidence is against its being parasitic.

No treatment hitherto used has been found uniformly successful. Repeated shaving gives the most promise of cure.

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## The Nature of Contagion.

(*Read before the New Orleans Medical and Surgical Association, Sept. 20th*, 1879.)

By JOHN DELL' ORTO, M.D.

The subject that our confrère, Dr. Jamison, has chosen for his paper is one of the greatest importance—important to the physician, the hygienist, and the philanthropist.

To know the nature of contagion means to know how to attack and destroy the causes of the most terrible diseases that afflict the human race. The field of discussion is vast, and I must confess, too difficult for me. My ignorance in this matter is so much greater than my knowledge, that I should have preferred to be here to-night as a listener than as a speaker. In fact, if you ask me for a scientific definition of contagion, I have to answer that I do not know. How, then, can I intelligently discuss a subject when the meaning of the word by which it is expressed is so differently understood by physicians? How can I profitably discuss the nature of diseases and of poisons that are invisible, and which have hitherto eluded all scientific investigations, and which can only be detected by their effects on the human body? Nevertheless, I will say something, giving views drawn only from practical facts and by way of induction.

### I.

From the Latin *tangere*, to touch, I call such diseases contagious as may be transmitted from man to man, from certain

animals to man, and from a sick person to a healthy one coming in contact with him. This kind of disease comprises many varieties, and as the nature of contagion in each is essentially different, I divide them into two grand classes.

1st. Those that are infectious and create epidemics, such as small-pox, scarlet fever, milliary fever, and measles.

2d. Those that never become epidemic, such as syphilis, scabies, cow-pox, rabies, and malignant pustule.

Now, leaving aside this second class of diseases, and which really have nothing to do with my subject, I will only speak of the first class and especially of small-pox.

The cause that originates these diseases is an unknown morbific principle that has the property of reproducing itself in the human system, as a seed does in the ground, poisons the blood and communicates the disease to persons who have never had it before, following a certain constant rule, almost as if it was performing a physiological function. This communication from man to man is made either by direct contact, infection or inoculation from the blood or products of the same constitutional poison as, for instance, the pus from the small-pox pustule.

The emanations from the respiratory organs, and from the cutaneous surface of the patients, contaminate the surrounding air, which becomes impregnated with the poison, and an epidemic follows.

The infection in these diseases always comes from the patients themselves, and is independent of telluric or meteorological circumstances. You take a case of small-pox and bring it to any place in the world, in any climate, at any season in the year, where the inhabitants have never had the disease, or who have not been vaccinated, and you will certainly cause an epidemic; it does not matter whether the patient resides in the most elegant and clean mansion of the rich, or in the most humble and modest cottage of the poor.

The epidemic once established runs a more or less regular course, as if it was dependent upon a peculiar law; it describes its *parabola* and finally disappears. Where does the poison go? After a lapse of time the disease re-appears. Where does

the poison (or germ if you prefer the name) come from? Has it been latent (or hibernating if you please) for years? Is it a *de novo* production? We do not know. So it goes, gentlemen, these germs are traveling away from the piercing eyes of the microscopist and defying the most rigid laws of quarantine.

This is the history of every epidemic of these diseases. It is very easy after the appearance of several cases in a community to trace the course of the epidemic. But who can tell the origin of the first case, the *causa causarum*? Here is the problem.

Meantime in the actual state of our ignorance, some prophylatic measures must be taken in order to prevent these epidemics, as far as human power combined with the interests of commercial intercourse can do it. These means constitute what we call a rational system of disinfection and quarantine. Happily the contagious diseases of which I am speaking are, with the exception of small-pox, not very severe in the majority of cases. Under proper treatment, and taken in time, they are easily curable and thus a light disinfection and quarantine may be sufficient to keep them confined to limited places.

With regard to small-pox, I would advocate the most rigid quarantine, if we had not in our hands, in *vaccination*, its only sure and certain preventive. The more I think of this matter, gentlemen, the more respect and admiration I feel for that great English philanthropist, Jenner, the discoverer of vaccination, as one of the greatest benefactors to humanity, and I consider as an enemy to our race the physician who is against it. That there have been abuses, and that very serious mischiefs may have been the consequences of such abuses, I freely admit, but this argument must not attack the system, which is good. Let us fight the abuses; let us impress upon the minds of our legislators the necessity of passing laws of compulsory vaccination—laws providing means for the propagation and preservation of pure vaccine matter under the sole control of responsible boards of health. There are dealers in vaccine virus, as there are dealers in pork, in artificial milk, etc., on these the government should keep a constant vigilant eye. This is a question we would like to see resolved by the National Board of Health. If we do not mind it may not be long before we

are witnesses of the most fearful epidemics of small-pox, trichinosis and cholera infantum. A great deal worse than yellow fever.

II.

There are other diseases, the origin of which may be readily traced to filthy conditions of certain localities and to putrid exhalations caused by vegetable and animal matters in a state of decomposition, or other bad sanitary circumstances. A person living in such a locality may contract these diseases without coming in contact with a sick person. We find, moreover, in the fœcal evacuations of these patients certain poisonous principles that may communicate the disease to other persons. I call these diseases infecto-contagious. Infectious on account of the origin of the poison outside of the human body; contagious by their secretions. These diseases are typhus fever, typhoid fever, and cholera. I do not speak of the pest, because I know nothing of it.

Thus epidemics of these diseases may occur both by contagion and infection, and may exist in every climate and in every country; on the top of the healthiest mountains in the world, as well as on the plains of the tropics.

For their prophylaxis, we should rely more on good sanitary laws and disinfection than on quarantine. Quarantine, moreover, should be more strict against cholera, because it seems to be more contagious than typhoid fever. These suggestions in regard to prophylaxis constitute what we call a rational system of disinfection and quarantine.

III.

Again, we have a third kind of diseases, caused by miasmata or effluvia from swamps, marshes, ponds, stagnant waters, irrigated lands used for the cultivation of rice, etc., that contain in their slimes the remains of animals and plants, that become putrefied by the action of the sun and of a high temperature.

I call these diseases infectious, because they are the result of conditions exterior to man: the air is contaminated; the air is bad; hence the name *malaria*. Here is the cause of the disease: here is the disease itself. A person must live there in

order to contract the disease. A person sick with the same cannot originate these miasmata or poisons, and for this reason they are not contagious.

To this class of diseases belong intermittent or malarial fever with its multiform and numberless varieties, and yellow fever.

Is the nature of the poison that causes malarial fevers identical with that of yellow fever?

I believe not. Dr. T. Selsis, of Havana, whom I consider a high authority in the matter, says that these fevers are two distinct varieties of miasmatic poisoning.

The miasma, or *paludisums* of malarial fevers is more, it is formed everywhere there are swamp lands, or plains. The number of swamp lands situated on the surface of our globe is countless. In Asia, in Africa, in America, on the borders and plains of the great rivers, in Europe, in England, in Holland, in Sardinia, in the Eastern and Western Indies, etc., we find many marshes, where, during the summer season all types of malarial fevers prevail; milder in the cold and temperate climates, more severe and pernicious in the warmer and tropical latitudes.

The miasma of intermittent fevers remains limited to the places, where it originates; though it may be transportable, it never goes to great distances; it seems, that when the *malaria* is brought in contact with a purer air, it loses its poisonous principles; we never hear of imported epidemics of tertian ague, pernicious fever, neuralgia, etc.

In the miasma that causes yellow fever, the localization is still more limited to a few particular places than the other. "The work of decomposition," says Dr. Selsis, (1) "of the vege-"table and animal matter is more active, and requires the com-"bination of a higher and constant temperature with certain "unknown meteorological and electrical circumstances."

Like the miasma of intermittent fever, the miasma of yellow fever prevails more in the hottest days of the summer, than in

(1) Cronica Medico—Quirurgia of Havana—March, 1872.

winter. It is not contagious. I continue the quotation from Dr. Selsis, "but it may be transported to greater distances by "the atmosphere, containing the miasmata, capable of causing "symptoms of yellow fever in persons who breathe the infected "air, and a person sick with yellow fever cannot create these "miasmata around himself."

From the West India Islands, the place, as they say of its birth, this disease had been carried at different times into other countries, and became epidemic. In the conclusions of the Board of Experts, authorized by Congress, to investigate the yellow fever epidemic of 1878, I read—Conclusion 18: "In "some of the countries outside of the West Indies, which have "been visited by yellow fever, it seems to have established it- "self permanently, and to have become endemic, as for exam- "ple, in the Brazils." These gentlemen have forgotten Vera Cruz, and I will add New Orleans.

Whether yellow fever be indigenous or imported in the United States, in order that it may become an epidemic, it is necessary that the above named elements of infection be combined, almost as they are in the localities of its origin; it cannot be propagated by means of contagion. The facts that we have observed last year, and those that we are observing now of fugitives from infected places going to the cities of Louisville, Cincinnati, St. Louis, Chicago, New York, etc., carrying with them the morbific cause of the disease, dying of the fever in hospitals, in hotels, in tenement houses, without causing an epidemic, are splendid proofs in favor of this assertion.

Such also is the opinion of the physicians of Havana and Vera Cruz. The populations living in the interior of the island of Cuba and of the republic of Mexico, do not quarantine as far as I know against those ports; they only have the good sense not to go there during the unhealthy season. Yet epidemics in the interior of those countries do not occur more frequently than here.

The assumption however by the gentlemen in favor of contagion is borne out by the following facts of some value, to which I want to call your attention:

1st. Among the symptoms of yellow fever, there are two pathognomonic of contagion, a *sui generis* smell and a peculiar eruption.

A smell, a bad smell may be the cause of infection, more than of contagion. A strong smell besides is observed in many diseases that are not considered contagious, as for instance in the sweats of the patients of malarial fevers, in dengue, etc.

We acknowledge the appearance in some cases of yellow fever, especially in children, of a measles-looking-like exantema, but it is not a constant symptom. Many text books do not speak of it. Dr. Selsis never saw it in a long practice of 22 years. So far then we may consider this eruption mostly as an accident proper to certain epidemics or localities, than as a characteristic symptom.

2d. In Montevideo, during the epidemic of 1857[1] a young and noble physician, Dr. Villardebo, an enthusiastic anti-contagionist, drank the black vomit of one of his patients. A few days afterwards he died with black vomit.

Here is, they say, the conclusive proof of contagion. Wait a moment, gentlemen; Dr. Chevria in Paris, and Fifth, I suppose in England, made the same experiment with negative results.

What may be the reason of these different results? The gentleman who died had been living for months in an infected city in the full exercise of his profession, and it seems to me that the cause of his disease ought to be attributed more to infection than contagion.

You know already, gentlemen, my opinion on the prophylaxis for yellow fever. I still persist in the same. I said last winter before this Association, that, rather than be every year oppressed by the tyrannies of boards of health, some of whom seem to make of the matter more a question of business, than of principles, an absolute non-intercourse between the West Indies and all the ports of the United States, would have been

(1) Dr. J. A. Ledesma, Revista Medico-Quirurgica de Buenos Ayres, August, 1878.

preferable. Now, after the experiment of this year, I must say that even such a measure would not save us against the foolishness and nonsense of inland quarantines. This looks sad and gloomy for the future of New Orleans and for our own selves. If the hanging theory against sea-captains that has been lately suggested by a medical member of our board of health be adopted, what measures will they take against us—physicians—who are continually in contact with so many *foci* of infection?

IV.

A few words on another kind of diseases, the nature of which is *per se* neither contagious nor infectious, yet they become both under peculiar circumstances—bronchitis, tonsillitis, dysentery, cerebro-spinal meningitis, erysipelas, gangrena, metro-peritonitis. Nothing more common, more individual, more simple, more non-contagious than these diseases. Let the atmosphere be vitiated, and you will see the bronchitis become influenza, grippe, whooping-cough (which are nothing but epidemic bronchitises); you will see the angina tonsillaris become pseudo-membranous croup (the contagious diphtheria). Let the air of our hospitals be contaminated by unknown morbific principles, and soon the slightest operations will be followed by contagious erysipelas; the gangrena will become nosocomialis; the metro-peritonitis, puerperal fever. How is that? What has been the cause of such a change in the nature of these diseases—of such a change in the medical constitution, in the clinical field of a whole population? We do not know anything. But we feel, that of all influences that we receive from the exterior world, none must have more powerful action on our health than the air.

Whatever the nature of diseases may be in their origin, it is only as united to the atmosphere that we can conceive their breaking into epidemics, and spreading from place to place; and this propagation must be regulated by those laws which govern the motions and direction of the winds, the moisture of the air, and many meteorological and electrical phenomena that we do not know.

It is in the study of these laws, we may finally discover the true cause of disease and epidemics. To obtain such a result it requires time and labor, it takes men of great learning in microscopy, in chemistry, in pathological anatomy, in meteorology, in astronomy. Perhaps, the eminent scientists that the government of the United States has sent to the Island of Cuba, will soon be able to throw some light in the darkness by which we are surrounded about the origin of yellow fever! Let us hope that their efforts will be succestful. Why should we doubt. An accident, an apple fallen from a tree on the head of a man of genius caused him to think, and the great law of attraction, which rules the worlds, has been discovered. Perhaps, a modern Newton is among the gentlemen.

In the interest of science, in the interest of humanity, let us hope and wait.

# Current Medical Literature.

## THE PRESENT STATE OF THERAPEUTICS.

An Address delivered at the opening of the fifty-sixth course of Lectures in Jefferson Medical School.

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(Reported for the *Medical Record.*)

I heard, but a few years ago, a very able teacher, himself a Professor of Practice, declare that if the four great chairs of Anatomy, Surgery, Practice of Medicine, and Obstetrics were well filled in a medical school, it was of little consequence who occupied the others; and as for Materia Medica and Therapeutics, any old woman could teach that. His was the traditional old woman who knew how to prepare catnip, tansy, and similar teas, and on special occasions could administer castor oil—an amount of therapeutical knowledge sufficient now for the leaders of French medical practice, if we may credit some recent reports from Paris.

Scientific physicians have usually held therapeutics in small esteem, doubtless, because it had small deservings. In Bichât's time it was a feeling of contempt, which found expression in his famous declaration: "Materia Medica is a shapeless mass of inexact ideas, of observations often puerile, of imaginary

remedies, strangely conceived and fantastically arranged." No one possessed of any knowledge of the subject, could now, on examination of the therapeutics of that day, deny the justice of Bichât's denunciation. It was an incongruous mixture of empirical notions, based on the crude theories of various medical philosophies—partly humoralist, partly solidist, partly of the Italian contra-stimulant school. It embraced the mechanical and chemical theories of the great Boerhaave, the vitalistic mysticism and the expectant practice of Stahl, and the solidist theories of Hoffmann. The whole mass was hardly in advance of that condition of therapeutics against which were levelled the shafts of Montaigne, the jests of Molière, and the morbid fancies of Rousseau. In fact, it was not until the birth of modern physiology that scientific therapeutics became possible, and that epoch was at a period within the memory of men now living. It may seem almost incredible, but it is true, that any considerable body of scientific facts in therapeutics has been the product of the last twenty years—for scientific therapeutics must always follow the course of discovery in physiology. Even now, there must necessarily be two methods pursued in advancing the knowledge of therapeutics: the empirical or rational, and the physiological or scientific. The empirical method is based on the principal, as ancient as our art, that a remedy which has cured a case of disease must also cure analogous cases. The scientific method is the application of physiological research to ascertain the actions of medicines, and on this sure basis is predicated the use of remedies in the treatment of disease.

The inherent difficulties of the subject, it must be admitted, are in large part, responsible for its tardy development. In part its slow progress is due to an unreasoning conservatism, which admits of but one road to the acquisition of truth. Even now there are many so-called practical men who are disposed to sneer at physiological therapeutics, and to make themselves unhappy over achievements which experience can utilize, but has had no agency in accomplishing. They should reconcile themselves to the inevitable by the philosophy of the old Spanish proverb: *Let the miracle be done, though Mahomet do it.* They should be satisfied with the progress of truth, though they may not approve of the means by which that progress has been achieved.

But the most vehement reactionists are yielding to the force of therapeutical discovery accomplished by physiological methods.

Thus, one of the most eminent therapeutical authorities of our day has declared in a preface written so recently as October, 1874: "In the first edition of this work the author contended against the mischievous error of seeking to deduce the therpeutical uses of medicines from their physiological action. Continued study, observation, and reflection have tended to

strengthen his convictions upon this subject, and to confirm him in the faith that clinical experience is the only true and safe test of the virtues of medicines." The same author, in another work on the same subject, after another five years of study, observation and reflection, says, in a preface dated 1879: "Whenever it seemed possible, an attempt to apply the results of physiological experiment to therapeutical uses has been made; for although the two fields of inquiry may not be so organically connected as to render the former a guide to the latter, it is, nevertheless, true that a scientific explanation of the curative powers of medicines must be sought in the results of their experimental operation upon the animal functions."

No revolution of opinion could be more complete; no renunciation of heresy more absolute. In 1874 empiricism is the true guide, in 1879 physiological experiment. This, though somewhat sudden, is significant of a change which is taking place in the last strongholds of empiricism. Such a quotation must satisfy the doubts of all—and they are legion—who respect authority and are governed by its utterances.

I hope I shall not be misunderstood. Far be it from me to abate one iota of the just fame of the author whose works I have quoted, or to impute inconsistency in his opinions, or to cast doubts on the accuracy of his judgments. I quote his words to demonstrate the revolution which has taken place by the application of the modern, scientific methods, with results so convincing, that the deepest convictions from wide learning and extended experince are made to yield. Honor and praise rather to the honesty of him who can surrender his own cherished convictions rather than do violence to truth.

Revolutions do not go backward, and they are apt to be radical in medicine. Furthermore, it is surprising to what extent fashion rules current medical opinion and modes of practice. Do the leaders in medical thought take a certain direction, their followers pursue pell-mell. This is observable now in the revolution which has taken place with respect to empiricism in therapeutics, and in certain quarters there exists a disposition to ignore all that has been accomplished by it, and to rely exclusively on the physiological method. This extreme tendency ought to be resisted in so far as there is danger of putting aside some of our most valuable acquisitions. It is far wiser to possess us of every aid which either method can offer—to accept the scientific facts which an exact physiological research can contribute, and to retain and extend that knowledge, the truth of which has been confirmed by the experience of generations of accurate observers. In fact, when we come to investigate the subject, we find that the physiological method is not free from sources of fallacy, from contradictory observations, from conclusions that subsequent investigations show to be erroneous. I freely admit that it is less hampered and overgrown by errors and contradictions than is the empirical

method, but there are uncertainties and confusion which ought, if possible to be eliminated. The first step necessary is to have a clear conception of the sources of error, and I think we may spend a part of this hour very profitably in an attempt to measure them. The important question is: What are the difficulties in the way of right conclusions respecting the actions and uses of our remedies, especially their value in the treatment of disease?

We may certainly place foremost the imperfections of man—the limitation of our faculties. Then comes the absence of the necessary training, or its insufficiency, and the utter lack of power of logical analysis in many of those who occupy the position of authorities. The mental defects and faults of training can never be overcome. "In the conduct of life," says Mr. Mill, "wrong inferences and incorrect interpretations of experience, unless after much culture of the thinking faculty, are absolutely inevitable; and with most people, after the highest degree of culture they ever attain, such erroneous inferences correct interpretations of experience." Such being the case, it is not surprising that in a matter so beset with fallacies as the estimation of the curative power of a remedy, that there must be few qualified by natural powers, and by training for the task. The best equipped and most carefully trained intellect may not possess the power of observation; it may be unerring in the conclusions formed from the facts submitted, but the faculty of discernment, of seeing things as they exist may be deficient or inaccurate. That which Mr. Hill calls "mal observation," consists in "something that is not simply unseen, but seen wrong." With the best intentions, the purest conscientiousness, men making observations—trained observers—differ surprisingly in their accounts of events occurring on a particular occasion. A capital illustration of this fact has been afforded by the discrepant accounts from the observers of the corona and solar protuberances Observed with the same instruments under the same conditions, the various operators have differed widely, with the usual result of heated controversy. An ingenious theorizer has shown that the difference lay in the eyes of the observers: some were astigmatic, myopic, etc. As in Turner's pictures, the artist's oddities appeared when he had lost somewhat his appreciation of the harmony of colors. Not long since Klein saw, in investigating the changes in typhoid, a minute organism which seemed to have an important relation to the genesis of this disease, and there was much enthusiasm expended over the discovery, but in a few months a terrible iconoclast disposed of the discovery at one blow, by showing that the supposed organism was nothing more than a bit of albumen, altered by the reagents used in making the preparation. How much easier to form accurate conceptions, and give correct descriptions of things submitted to the evidence of our senses, than the phenomena arising from

occult processes in the body. Unfortunately, many of those occupying the position of authorities, always discern that which their preconceived opinions led them to search for; other observers look at facts with vision tinted by what Mr. Spencer calls the "professional bias;" in a variety of ways, the thing is not simply unseen, but seen wrong. The salutary lesson which we learn from this is: we cannot be sure that the things which we suppose we see are actually before us, and the other and higher lesson of patient waiting and study of our supposed facts, and comparison of them with the facts of other observers.

If we observe correctly as to the range of utility of a medicine, we may fall into error in its use by ignorance of the natural behavior of the disease in which it is exhibited. Before any exact knowledge was possessed of the natural history of diseases, it was simply impossible to be accurate in respect to the influence of medicines over them. Before it was known that a crisis occurs in pneumonia somewhere from the fifth to the eleventh day, endless were the controversies as to the influence of remedies in bringing this crisis about. How valueless became all those discussions, carried on with such earnestness and heat, when the natural history of pneumonia was made out, and it was discovered that medicines had never produced the crisis, which is an entirely natural process. Most important additions have been made to the natural history of diseases within a few years past, and we have now a sure point of departure for the investigation of the future. I affirm this, notwithstanding the pessimistic declaration of Dr. Andrew Clark, made before the medical section of the British Medical Association at their last meeting at Cork. He declares that "of the natural history of most chronic diseases—of their course from first to last; of the modes in which the organism, uninfluenced by drugs, and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influence upon other parts, and in their issues either in recovery or in death—we know almost nothing, and certainly not enough for the commonest purposes of therapeutic art." The wholesale iconoclasm of this address is everywhere remarkable, but in nothing has his zeal so outrun his discretion as in these statements. I need mention but two classes of chronic diseases to demonstrate the error of his statements—the chronic cardiac and renal affections—in regard to which we know their course from first to last, and how the organism, uninfluenced by drugs and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influence upon other parts, and in their issue either in recovery or in death.

It may seem a comparatively easy task to determine how far the mind influences the bodily functions in modifying the phenomena of disease, but it is extremely difficult to measure the

operations of a force whose nature and source are unknown, and whose powers are exercised capriciously, and without the reign of law. A curious and most interesting book, compiled by Dr. Tuke, has lately been published, in which are brought together more thoroughly than ever before the facts scattered through medical literature, illustrating the influence of mental states on bodily functions. No one can peruse this book without being strongly impressed with the uncertainty which must attend our estimate of the influence of remedies in all of those conditions of disease over which a peculiar mental force may exert a far greater curative power. Everybody has been more or less familiar with the well-attested facts which have existed on this point, but when they are brought together, analyzed, and their lesson comprehended, we are simply amazed to find that many morbid states, which medicines have failed even to modify, are removed or cured by a force emanating from the mind. If this mysterious force moves, how impossible to form a correct judgment of the share which a medicine or a plan of treatment had in the result.

When Sir Humphry Davy, then a young man unknown to fame, was employed by Dr. Beddoes to make observations with nitrous oxide, among the patients who presented themselves for treatment was a paralytic. Before commencing the inhalation of the gas, Davy inserted a thermometer under the patient's tongue to ascertain the influence of the gas on the temperature of the body. The patient was greatly impressed with the mysterious little instrument, and declared, with much enthusiasm, that he felt the influence pervading his entire frame, and was already much relieved. Davy, observing the remarkable influence of hope and expectancy, did nothing more than gravely insert the thermometer day by day with surprising results, for in a short time a complete cure was affected. If Davy had administered the nitrous oxide, the case would have appeared in medical annals as a cure of paralysis by the gas.

When a *religeuse*, in Cincinnati, with prayer and fasting, and after a solemn service in which all of her sisterhood participated, threw herself at the foot of the altar and would not rise until healed—behold! an ulcer of the leg, resisting all other means of treatment— was cured by some drops of water coming from the far-off, mysterious and sacred spring of Our Lady of Lourdes. In the one case it was a mere impression on the mind without the element of religious faith—a mere dependence on the efficacy of dumb glass: in the other a profound religious sentiment, than which nothing more powerful can sway the human heart—and yet the result is the same.

When we come to analyze the examples of diseases cured by powerful impressions, emotions, faith, hope, expectant attention—whatever the nature of the mysterious force—we find that the cases can be referred to one of two classes: to functional morbid states of the nervous system, or to alterations of

structures—organic changes they are called—brought about through the agency of the trophic nervous system. Everybody is familiar with the plentiful examples of the first group, and the second needs no explanation to Philadelphia physicians—for in this city work has been done that has materially advanced the knowledge of this subject. In these two large and important groups of diseases, so much does the cure depend on merely physical impressions, that it is difficult—often quite impossible—to determine how far the mental state, how far the remedies employed, contributed to the result. The practitioners of that medical jugglery who cures diseases by prayer and the imposition of hands, or by the gifts of the natural healer, understand full well the form of malady suitable for their powers. There is now in the State of Massachusetts, a preacher-doctor who cures by prayer and the imposition of hands—the apostolic method—and therefore denies to his grateful patients the privilege of recompensing him except by voluntary gifts. The pecuniary outcome of his benevolence is something remarkable, for he has now built up around him on his domain of several hundred acres, a number of stately dwellings for the reception and care of the thousands going to him from all parts of the United States. A patient of mine—a genuine Christian and a woman of the highest excellence, though somewhat credulous and a little superstitious—having heard of the wonderful cures wrought by this Massachusetts apostle, resorted to him. I had from her own lips the story of her experience. She told the great man that she was a firm believer in the efficacy of prayer, having met with many examples, and that she had come all the way from Ohio to be cured of an organic affection of the heart. When the doctor-preacher heard the nature of the malady he made a reply, in which, astonishing as it may seem, she saw no incongruity. He said: "My experience is, that the Lord rarely, if ever, interferes to cure organic disease of the heart." Nevertheless, he expressed a willingness to try, as she had come so far, and, with hands on hers, he did pray fervently, in which she joined as fervently, for half an hour at a time on three days; but my patient experienced no relief, and came home the worse for the moral struggle which she had undergone. My client, as did all who came, it is probable, left a considerable fee in the form of a gift, and was not cured of her delusion, for she heard of numerous miracles that had been wrought there, and she witnessed on all sides the evidences of worldly prosperity; and she may have inspected, for aught I know, the arsenal of crutches, canes, and ear trumpets which these artists exhibit in proof and confirmation of their powers.

When anæsthesia by the inhalation of ether was demonstrating in the Massachusetts General Hospital, Dr. Elliottson, of London, was engaged in a far more wonderful work, teaching the great lesson, that in a mesmeric sleep surgical operations

can be performed without consciousness of pain. So zealously and completely, although in the face of much obloquy, had Elliottson succeeded in convincing sceptical and conservative London of the genuineness of his work, that the discovery of the production of anæsthesia by the inhalation of ether was announced in the *Medical Gazette* under the heading, "Animal Magnetism Superseded." Up to this time the capital operations in surgery were almost daily performed in London whilst the patients were unconscious in the so-called mesmeric sleep. Although Elliottson misinterpreted the phenomena which he observed, and became involved hopelessly in the absurdities and mysticisms of Mesmer, he was nevertheless engaged in the demonstration of important truths. If time would allow, I might enter more fully into that remarkable state in which there is a suspension of the methods of consciousness, and show, indeed, that the recent observations of Czermak and others on animals, is an experimental induction of the same state. It seems, indeed, that the condition of the brain in which a peculiar curative influence is exerted over morbid processes, is the opposite of that state in which the activity of the perceptive and volitional centres is in absolute suspension.

Closely allied to this subject are the remarkable phenomena of Burqism, or methallotherapy, which at first excited the ridicule of the scientific, but which seem now likely to contribute to our knowledge of this outlying department of mental and nervous processes. The results obtained by Burq, and especially by Charcot, are such as to merit the close attention of therapeutical investigators, and must, if confirmed, enter into the question of the curative power possessed by certain remedies.

We constantly hear physicians complaining that the published results of others, in respect to the utility of a particular plan of treatment, cannot be realized in their own experiences; that, although Davy cured paralysis by the inhalation of nitrous oxide, they cannot succeed, although they have carefully observed all the conditions of the experiment. They entirely overlook the fundamental fact that one physician summons to his aid the mysterious mental force in hope, faith, expectant attention; and another represses it, not consciously to himself, by a lack of personal enthusiasm, and still more by a lack of confidence in his own powers and in the power of his remedies—fatal defects in the character of the physician which will not escape the keen scrutiny of the anxious patient. I will not use the vulgar term "personal magnetism," for it has no meaning, and the power is not a magnetic quality or power—not a mysterious gift possessed by the chosen few. That which inspires a supreme, unquestioning, all pervading belief in the efficacy of the means proposed, is a reflex of the confidence of the physician—not a boastful, self-asserting egotism, not the blind faith of ignorant credulity, but the well-founded

convictions of the enlightened therapeutist, confident in his resources from long experience of their capabilities. "The Lord is on the side of the heaviest battalions," was a favorite saying of the great Napoleon. I hope I shall not be understood to speak in an irreverent spirit. My purpose is to illustrate the lesson, that "God operates, not by partial, but by general laws;" that He gives us the faculties to acquire and to apply knowledge in the treatment of disease; that He does not suspend the laws of nature for our benefit; and that those cures which seem miracles are entirely human and easily explicable.

We derive from the whole subject the important lesson that we have in a peculiar mental state or condition of the great nerve-centres an extraordinary curative power in a large group of diseases, and that in this fact lies one of the greatest sources of fallacy in estimating the value of remedies. Furthermore, it must be obvious that the physiological as well as the empirical method—that both methods are embarrassed by wrong inferences and incorrect interpretations of experience.

The progress of applied therapeutics is equally hindered by the sources of error which I have pointed out. The end to which all our studies are directed as practical physicians is the application of remedial agents to the cure of diseases. An unprejudiced thinker to whom the subject was mentioned would assert with confidence that gentlemen engaged in a pursuit requiring the use of certain agents to accomplish the desired results, would be most solicitous to inform themselves fully in respect to those agents. He would regard it as incredible that a considerable part of our profession are either indifferent or satisfied with vague notions, and that a still larger part fall into routine methods with a few agents which have to do duty for all possible conditions. This wide-spread inappreciation, indifference, or ignorance of the actions and uses of drugs is due partly to fashion, partly to the unpromising nature of the subject. Within a few years past a therapeutical nihilism has been the position occupied by many of the most influential leaders in modern medical thought. This movement is a result, in part, of the overshadowing importance of physiological and pathological studies. The founding of great laboratories and the brilliancy of discovery in these departments have attracted universal attention to those studies which have become the fashion. We see on every side the efforts put forth to give this direction to medical study and teaching. The desire of the time seems to be to make students, histologists, pathologists, microscopists, rather than sound practitioners, full of the humble but necessary knowledge of the practical departments of our art and science. I hold this to be a perversion of the duty of a medical school. Its first and highest duty is to instruct students, not to pursue minute researches, but to become thoroughly accomplished physicians and sur-

geons. No fact is more evident than that the highest order of physicians and surgeons are not men remarkable for their knowledge of microscopy, of experimental physiology, and the other branches of theoretical medical science, and, conversely, that the microscopists and pure physiologists are not remarkable as physicians, and, indeed, cannot be. The attempt to pervert the proper purpose of medical schools, and to give a merely science aspect to medical teaching is a fashion of the time, which, if it gain more adherents, is likely to do serious mischief to the cause of medical education. For young men, allured to by th. glitter of scientific work, will neglect the important and really more difficult attainments of true professsional studies.

It is a mere pseudo-science which is misleading so many that it has become commonplace to know something about drugs and to prescribe them; the new school of pathologists and physiologists look upon the whole business of medicine giving as unscientific, and therefore unworthy the attention of the higher order of medical thinkers. It is a very fascinating doctrine, that to be ignorant of drugs is to be regarded as superior to the commonplace—as being in the higher walks of medical life—and hence many make haste to adopt it, relying for the hereafter on mint-water in the treatment of rheumatism, and similar nihilistic absurdities. The great question of the time is, does it pay? Applying this utilitarian method to the subject, I answer, it does not pay to be ignorant of therapeutics, and I prove my position by some illustrative examples selected from those recently deceased, so as not to be accused of making invidious comparison. The most successful physicians Paris, Vienna, Berlin, London, Edinburgh have had for a generation, were Trousseau, Oppolzer, Traube, Todd, Begbie—all of whom were most careful students of therapeutics, have contributed to our knowledge of the subject, and were diligent prescribers of remedies. These great men were not only successful teachers and clinicians, but had great local renown as practitioners, and each had a large *clientèle*. I beg you will not, therefore, be misled by the depreciation of therapeutics by presumed medical scientists, who are not sufficiently scientific to feel their position assured, but must manifest their superiority by speaking contemptuously of the so-called practical branches. *Sum* is sometimes taken for *habeo*, is an eccentric rule of Latin grammar which is very applicable to the affairs of modern life, and may have been and doubtless was, strongly felt by the old Romans. To have is to be. Applying this rule to the utilitarian side of the question, you may be well assured that *to have* a competent knowledge of therapeutics is *to be* a successful practitioner.

Many who have started out on a medical career with a competent knowledge of therapeutics have been disheartened by a failure to obtain the expected results. Failures of this kind

arise from two causes: first, from an incorrect appreciation of what nature and art respectively accomplish; and second, from an inability to make a correct therapeutical diagnosis. The rage in our time is to make an accurate diagnosis of disease, and it is an enthusiasm to be encouraged, but there ought to be a corresponding desire to make an accurate therapeutical diagnosis—that is, to ascertain the remedy adapted to the form and character of the disease and the condition of the patient. Into this problem many complex questions enter, and he only can solve it correctly who has an intimate acquaintance with the phenomena of disease, and with the whole range of rational and scientific therapeutics.

What art, what nature can accomplish, is a wide subject which I must merely mention. It is a singular fact that but few young physicians, comparatively, recognize the limits of remedial power. The result is that they may begin with a blind, unquestioning faith, but they end with an unreasoning scepticism.

Having now dwelt on the method and spirit in which therapeutics should be studied, as much as my time will allow, I must next say something of the manner in which it should be taught.

Confronted at the outset of his career with the subjects of materia medica, a student may well stand appalled. A subject which embraces the mineralogy, the chemistry, the botany, the pharmacology of several hundred articles belonging to the three great kingdoms of nature, would seem to require the undivided attention of a life given to the task. The student of medicine cannot become sufficiently well informed in these sciences to utilize them in the study of the materia medica, and at the same time devote sufficient attention to his strictly medical studies. The result is, he abandons an undertaking which seems to him hopeless, cuts the subject of materia medica, and contents himself with the fewest possible facts in therapeutics. He enters into practice with crude notions, and is given to a boundless credulity respecting the curative powers of drugs, or he cultivates a sceptical dilettanteism, or becomes a sceptic, affecting a patronizing forbearance for the weakness of those who have faith in remedies. The condition to which practitioners are now reduced in Paris is gravely stated in a letter which appears in a recent issue of the *Lancet*—so gravely that it can hardly be regarded as satirical: "No wonder therapeutic scepticism is now the rule with prescribers. Thanks to the enterprise of wholesale druggists, a host of *elegant* preparations are always at hand, which relieve the scientific *clinicien* from the ridiculous absurdity of writing a useless formula. Now that diseases are allowed to run their normal course under the watchful eye of the medical naturalist, the exhibition of an inert, but *elegant* granule, must be considered a vast improvement upon the active interference of our physicking forefathers."

No wonder that, at a recent meeting (last month) of the Paris Academy of Medicine, there were loud demands for reform. No wonder that Dr. Andrew Clark, in that recent iconoclastic address from which I have just quoted, cries out that therapeutics, "the highest department of our art, and one of its chief ends, is in a backward and unsatisfactory condition." He attributes this unhappy state of things to several causes; but the first is, that materia medica, not therapeutics, is taught in the schools, and that there is "no physician of experience and authority who teaches the subject of therapeutics."

Where must the reformation begin? Obviously the reformation is demanded in the direction which I have indicated, and which Dr. Clark so vehemently emphasizes.

We must begin by stripping the materia medica of its useless knowledge. We must relegate to the botanist, to the chemist, to the pharmacist, the subject matters belonging to them, and retain those things having connection with the study and work of the physician. I can best illustrate this by an example selected from the vegetable kingdom: let it be nux vomica. We have first the names—botanical and chemical. Then follows the source and botanical description, which is Sanscrit to the average student, and knowledge without any use to the practitioner as such. Next comes the pharmaceutical preparations, and a description of the mode of preparing the tincture and extracts, and an elaborate account of the separation of the alkaloids—a complexus of chemical and pharmaceutical knowledge of great utility, indispensable, indeed to the pharmaceutist, but useless to the physician, who is not engaged in the business of a manufacturing chemist, and who cannot acquire this knowledge unless at the expense of his proper professional education. The best students who make the attempt to master the details of materia medica, acquire but a vague notion of it, and drop the study as soon as possible, except the few who expect to combine the business of pharmacy with the practice of medicine—a union which always results unhappily, and is not to be approved.

Dr. Clark complains in his energetic way that our works in this department consist of materia medica teaching largely, whereas they ought to be devoted to therapeutics only. This is an extreme view to which I must decidedly express my dissent. There is certain knowledge of pharmacy and chemistry which is necessary to accurate prescribing, and which must be taught, if we would use our therapeutical knowledge intelligently. We must know the names of the drug, the forms and preparation in which they are compounded, the active constituents, the doses, the antidotes chemical and physiological, but especially must we have full and accurate information in regard of the effects of the remedies and their uses in the treatment of diseases. All of this knowledge is immediately applicable to the requirements of the physician, and no part of it

can be omitted without injury. I hold that the actions and uses of remedies is the point on which the greatest stress should be laid, and no information, empirical or physiological, should be neglected. Let the student have the minutest information from all possible sources of the physiological powers and capabilities of a drug, its behavior as influenced by idiosyncrasy and dose, its applications in the treatment of disease, the fallacies which affect a proper estimate of its powers, the special conditions in which it is useful, why it should be preferred to another remedy of the same class, and in fact any information in regard to it which may facilitate the physician's use of his armamentarium. The artisan is taught the name of the tool, the range of its uses, the mode of handling it under special circumstances; but he is not expected to acquire the mineralogy of iron and the chemistry of steel—subjects concerned with its original construction.

The information which a teacher must convey to a class is derived from two sources; from a study of the authorities who have contributed to the subject; from his personal experiences and reflections. The literature from which he gleans is a wide field and contains a multitude of workers, who differ in capacity, in acquirements, in honesty. The instructor may pursue two methods in imparting his information: he may present in order, chronologically or by subjects, a synopsis of the contribution of each individual worker; he may subject the whole to a careful analysis, weigh the merits and truthfulness of individuals, and present the results in the plainest language. The former plan confuses the student with a multitude of names and opinions that vary and are often contradictory; the latter gives him some salient points on which he may lay hold. I maintain that the latter plan is the true one—that it is the duty of the instructor to analyze the complexus of facts and opinions—to guide the intelligence of the student through a maze to right conclusions. Those who wish to engage in investigations on their account are either advanced students or graduates, who possess the knowledge necessary to find their way through the labyrinth.

I hold, further, that the instruction should be, as far as possible, objective or demonstrative. The lecturer may content himself with stating that drugs will produce certain results—that strychnia will cause tetanic spasms, and that conia will paralyze—and he may illustrate the action of strychnia by an exposition of some famous medico-legal case, as the poisoning of Cook by Palmer, and the action of conia by recounting from the Phædro of Plato the death of Socrates; or he may at the moment demonstrate the effects of the drug by an experiment which makes the fact memorable in the student's mental experiences. The chemist who merely tells his students that water is composed of oxygen and hydrogen, and does not demon-

strate it by experiment, will hardly have done his duty. The experiment vivifies the bald fact, and the impression is made permanent. But how demonstrate your therapeutical facts? This brings me face to face with the great vivisection question. Though an advocate for rightly conducted vivisections, I protest against cruelty to animals, who are God's creatures. I protest against those barbaric sports in which more animals suffer yearly—hunted to death—than have in all time been under the knife of the vivisector. More than all, I protest against that inhumanity to man—the outcome of an unreflecting sentimentality—which prevents those scientific investigations having for their end incalculable benefits to man. Some of our most important remedies and physiological knowledge of the highest importance have been, and only could have been, obtained by experiments on animals. If animals are sacrificed for the support of men's bodies, why should they not contribute to the improvement of men's minds? Your sentimental philosopher does not reflect on the humanity of the butcher, except for the toughness of his matutinal steak. Not to occupy further time with well-known arguments in favor of vivisection, I hold that the actions of drugs should be illustrated as far as practicable by experiments on animals, but the experiments must be decorous, not revolting, not cruel, and made strictly to advance or impart knowledge for the benefit of our fellow men. In these experiments animals have small occasion to suffer, for the medicament or the anæsthetic so far obtund the sensibilities of the centres of conscious impressions that pain is not felt.

Why torture dumb brutes by experiments, which after all cannot be utilized in the treatment of men's diseases; for has it not been shown that the actions on men and animals differ—that rabbits eat belladonna with impunity, and pigeons cannot be affected by opium? I might explain to you how idiosyncrasies exist in men and animals alike, and are usually more apparent than real; but let me answer your objections by a quotation from the most competent authority of modern times—Claude Bernard. He declares in that remarkable work—"Introduction to Experimental Medicine" (p. 218)—that "experiments on animals with deleterious and noxious substances are very useful, and perfectly conclusive for the hygiene and toxicology of man. The researches on medicaments or poisons are equally applicable to man from the therapeutical point of view, for the effects of these substances are the same in animals as in man, except the difference in degree." This opinion, based on the largest experience, and after a career of brilliant discovery, might be illustrated and enforced, if I had the time, by the examples of benefits to the race obtained in this way.

The crusade against vivisection in England, which has attained extraordinary volume and force within a few years past,

is an outgrowth of dog-worship, which has now become a form of religion in the upper classes of society. With hair perfumed, powdered, and curled, his canine worship sits at table with his mistress, rides in the park in the afternoon, sleeps on downy pillows at night; he has his maid to anticipate his wants, besides the undivided attention of his mistress, and when ill he is waited upon by a celebrated physician. He makes no return to society for the protection and benefits he receives; he pays no taxes; he merely barks and growls in return for the love of his mistress, and is altogether an ungrateful dog: but he has driven physiological research out of England, and the gentlemen who were engaged in an important series of investigations on the biliary secretion were compelled by him to go over to France. An epidemic of hydrophobia and the loss of several titled ladies will be necessary to prevent the apotheosis of the dog, and to put vivisection in its proper position—for a cure for hydrophobia can only be arrived at by experiments on this at present distinguished member of society.—*The Medical Record.*

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### THE TREATMENT OF POST PARTUM HEMORRHAGE.

This brings me to the discussion of the agent to which I wish to call the attention of the Fellows of this Society as *the* remedy for post partum hæmorrhage, occurring under the conditions I have laid down, and in cases when the ordinary remedies of friction, pressure, ergot, cold, etc., etc., have failed. This remedy is common vinegar. I claim no originality in suggesting it. I will merely state that I have used it, alone, as my last resort, both in hospital and private practice, in many (apparently desperate) cases of post partum hemorrhage, and invariably with successful results. I have taught the use of vinegar to my classes since 1854, and though I am in constant receipt of reports of cases from my former pupils in which they have relied on vinegar—often, in seemingly hopeless conditions—in all these years I have received the report of but one case where the remedy failed to check the hemorrhage. In this instance, my friend happened to have access to a galvanic battery, and the electrical current at last proved the needed stimulant to secure uterine contraction.

Vinegar I have found not only a certain remedy for post partum hemorrhage, but a remedy as safe as it is certain to cure. In the many very bad cases where I have used it the hemorrhage was always arrested, and in but one instance did the woman subsequently die, and in this case neither I nor the immediate attendant (my friend Prof. John Neill) had any reason to attribute the woman's death (neither did we) to the vinegar I had used to check a most appalling case of flooding. In the many reports which I have received from my former pupils on this subject, I have yet received none where any unfortunate results have followed the application of vinegar.

Vinegar presents the following advantages as an invaluable remedy in the treatment of obstinate cases of post partum hemorrhage, where the difficulty to be overcome is a want of shrinkage in the uterine muscle. In the first place, it can always be obtained—every household, even the humblest, having a vinegar cruet. In the second place, it can be applied instantly, and without any apparatus. In the third place, it always cures the hemorrhage, or rather, I should say, it has never failed to do so in my practice. It is sufficiently irritating to excite the most benumbed and sluggish uterus to contract, while, at the same time, it is not so irritating that its subsequent effects are injurious. Fourthly, it is an admirable antiseptic. Prof. Zweifel, of Erlangen, in his recent paper on the prevention of puerperal fever, considers vinegar an excellent substitute for carbolic or salicylic acids.[1] Fifthly, it acts on the lining membrane of the uterus, and on the gaping orifices of the torn utero-placental vessels as a valuable astringent. Vinegar I suggest, then, to the Fellows of this Society, as a most valuable remedy in post partum hemorrhage depending on inertia, possessing the advantage of the solutions of the persalts of iron, of the tincture of iodine, and, may I not add, even also all the advantages of the actual cautery; while its use is attended by none of the difficulties, and followed by none of the dangers that attach to these remedies.

I have just stated that vinegar may be applied instantly and without apparatus—perhaps I should mention precisely my method of using it. I pour a few tablespoonfuls into a vessel, dip into it some clean rag or a clean pocket handkerchief. I then carry the saturated rag with my hand into the cavity of the uterus and squeeze it; the effect of the vinegar flowing over the sides of the cavity of the uterus and through the vagina is magical. The relaxed and flabby uterine muscle instantly responds. The organ at once assumes, what I will term, its gizzard-like feel, shrinking down upon and compressing the operating hand, and in the vast majority of cases all hemorrhage ceases instantly; should one application of vinegar fail to secure sufficient contraction, the hand can be withdrawn, and a second or even a third application can be made, until the uterus shall contract sufficiently to stop the flow of blood.

Had I time, it would have been desirable to discuss this interesting subject at greater length and more completely. Thus it may be asked, suppose you should meet with a case of hemorrhage where vinegar failed to excite sufficient uterine irritation, and, consequently failed to arrest the flooding—what should be done? My reply is, that, while such a case is supposable, it is extremely improbable. *I* have *never* met with one, and but one has been reported to me. My treatment, however, in a case where vinegar failed, would be at once to

(1) *Monthly Abstract of Medical Science*, June, 1878.

resort to the application of the solution of the persalts of iron. I should do so, too, with confidence that the remedy would stop the hemorrhage, but, at the same time, I should consider my patient placed in great additional danger by the use of my cure, and I would employ it only on the ground that desperate diseases justify the employment of heroic measures. If this view be accepted, we are to consider the persalts of iron as the last and extreme remedy to be resorted to in case of flooding; never to be used save in those cases of uterine inertia where the simpler and safer remedy of vinegar has failed; and, inasmuch as vinegar seldom or never fails to cure uterine inertia, the persalts of iron are seldom or never to be employed in its treatment.—[Dr. R. A. F. Penrose, *Gynecological Transactions, Volume* 3.

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QUININE FOR HYPODERMIC USE.

The following is the preparation preferred in the Hamburg General Hospital:

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|---|---|---|
| R. | Quiniæ muriatis, | 20 parts |
| | Acidi muriatici, | 12 " |
| | Uræ, | 3 " |

The salt thus formed is soluble in equal parts of water, and hence large doses can be given by the hypodermic syringe.

The quantity of this 50 per cent. solution injected varied from a half to three syringefuls. The local irritation consequent on the injection was in most cases very slight, and at most consisted in a circumscribed burning pain (which was soon relieved by cold Goulard water), without redness or swelling. Doses of a gram produced in men scarcely any subjective sensations, and the noises in the ear complained of by women and children soon disappeared. The anti-febrile effects were evident and certain, intermittents disappearing after the second or third injection. This form of administration seems especially indicated (1) in those sensitive persons who have an invincible objection to taking quinine by the mouth; (2) when gastric affections coexist; (3) in children; and (4) in hospital and pauper practice, as a much smaller quantity of quinine is required than when it is administered internally.—*Medical and Surgical Reporter*, September 20.

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HOT APPLICATIONS TO THE HEAD IN UTERINE HÆMORRHAGES.

The anæmia of the brain is one of the most dangerous symptoms in acute hæmorrhage; hence Schroeder recommends to put the head of the patient low. Others recommend transfusion, some Esmarch's apparatus on the extremeties (Moeller), and nitrate of amyl has also been highly spoken of, in order to force more blood in the anæmic brain.

Koehler used for the last seven years hot applications to the head, in order to remove anæmia from the brain, especially as the brain is considered the chief factor of life. At the same time hot applications may be put over the cardiac region. As sand is nearly always handy, he prefers hot sandbags. The patient bears well sand of such high temperature that the hand can hardly hold it. The sandbags are hardly applied when consciousness returns, the pulse returns and becomes stronger, the patient acknowledges to feel better, the dimness before the eyes and the surging in the ears disappear, and as the heat in the bag declines she requests another hot one. Even in most desperate cases Dr. Koehler saved thus the life of his patient. There is no time lost, inasmuch as any person can attend to it. In acute anæmia, in consequence of epistaxis, the same treatment succeeds. Let us discard the ancient horrible icebag in anæmia from acute hæmorrhages. The patient wants heat, it feels agreeable to her, let us respond to this call of nature.—*Allg. Med. Cent. Zeitung*, 2, 1879.—*Maryland Medical Journal.*—*Nashville Journal of Medicine and Surgery*, September, 1879.

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### THE POISON OF THE TOAD.

The common garden toad is well known to secrete an acrid and irritating fluid in the large warts on its back; but that this ever produces fatal results has not been believed. Nevertheless, the London *Medical Record* reports the case of a child, of six years old, following a large toad on a hot summer's day, throwing stones at it. Suddenly he felt that the animal had spurted some moisture into his eye. There then set in a slight pain and spasmodic twitching of the slightly injected eye, and two hours after coma, wavering sight, desire to bite, a dread of food and drink, constipation, abundant urine, great agitation, manifested themselves, followed on the sixth day by sickness, apathy, and a kind of stupor, but with regular pulse. Some days later, having become comparatively quiet, the boy left his bed; his eyes injected, the skin dry, the pulse free from fever. He howled and behaved himself like a madman, sank into imbecility and speechlessness from which condition he never rallied.—*Medical and Surgical Reporter*, September 20.

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### CURARE IN HYDROPHOBIA.

Dr. Offenburg, of Munster, has lately treated with curare, a woman who had been bitten by a mad dog. He did not confine himself to the usual small doses, but injected about two decigrams of curare under her skin in the course of five hours. The patient was in a terrible state, and seemed on the point of being suffocated when the injections were made. After the first injection the convulsion ceased suddenly. This was owing to the power which curare has of paralyzing motion. After a short

pause, however, the convulsions began again, and several additional injections had to be made. At last the effects of the curare became so powerful that the patient was in danger of dying of paralysis of the heart and the respiratory muscles, and could only be saved by artificial respiration. She then fell into a state of exhaustion and weakness, from which she recovered after a time, and became quite well.—*Medical and Surgical Reporter*, September 20.

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## THE PRINCIPAL CONDITIONS FOR THE IMMEDIATE UNION OF WOUNDS.

[From the *Progress Medical.*]

The powerful conditions which favor immediate union of the soft tissues in wounds are:

1st. Exact apposition of similar part, which should be maintained solidly in contact during the time requisite for union. 2d. Production of plastic lymph. 3d. Preservation from contact of air. 4th. Easy exit of the secretions. In this respect M. Azam observes that if in the operation the elastic bandage of Esmarch has been used, the quantity of blood which oozes from the capillaries, after the ligature of the blood-vessels, is such that he has given up this method of hemostasis. The india rubber tube has still graver consequences if left on long. He recently saw in the service of M. Broca a patient who had the leg amputated below the knee for an injury near the ankle. The elastic tube of Esmarch was applied to the lower part of the thigh for two hours. An intractable capillary hemorrhage followed; then gangrene of the flaps, which necessitated amputation above the knee. The hemorrhage returned, gangrene also, and the patient died. 5th. Primitive union requires the absence of foreign bodies from between the lips of the wound. Catgut ligatures are a great improvement in this respect. 6th. Protection of the wound against exterior influences, which is accomplished by the dressing of A. Guerin. 7th. The proper alimentation of patients. 8th. A good hygienic, both physical and moral. A cetain number of the conditions necessary or useful for primitive union are realized by the dressing of Lister or of Alphonse Guerin; but the method of Bordeaux, which partakes of both, is preferable.

It is applied as follows:

Perfect hemostasis is indispensable. The wound is then cleaned, so as not to leave the least clot. Below or behind the osseous section, if any, a large drainage tube is placed, which rests at each end on the limb, and is firmly fixed in place by collodion. The flaps are brought together in the most exact manner possible by the twisted suture, placed deep. Then superficial sutures should be put in, also twisted, with the same care as in plastic operations on the face. This suture is then covered with a layer of collodion, and only the two openings

remain through which the drainage tube passes. After washing with carbolic acid solution, a mass of charpie is placed around the drainage tubes, and the whole enveloped in cotton. A resumé of 262 operations with this mode of dressing shows only 16 deaths; of the 262 operations 42 were amputations of the thigh, amputations of the leg, and 111 were removals of tumors.—*Western Lancet*, Sept., 1879.

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## THE STATUE OF DR. CRAWFORD W. LONG—THE DISCOVERER OF ANÆSTHESIA.

We are happy to inform our readers that this statute will form one of the National Gallery in Washington. It seems that Congress has invited each State in the Union to forward the statues of two of its benefactors, to be placed in the Art Gallery at Washington. At the recent special session of the Legislature of Georgia, James Oglethorpe—the founder of Georgia—and Dr. Crawford W. Long—the discoverer of surgical anæsthesia—were selected as the two most distinguished of the sons of Georgia, whose statues should stand in the Capitol at Washington.—*Virginia Medical Monthly*, Sept. 18, 1879.

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## A PHYSIOLOGICAL QUESTION.

WILLIAM J. SCOTT, M.D., Cleveland, Ohio.

Seven years ago I had a patient, who, in a drunken row, received a severe cut in the right malar region by a glass thrown by some one of the party. The wound was dressed by Dr. Williams, who was then with me, and for four days the conditions seemed favorable. Then he began to complain of stiffness of the jaws,, and the next day he had tetanus. Then I supposed that he would have, in all probability, delirium tremens. Such symptoms were not manifested during the illness. One night when I saw the man (who was colored), I remarked to a friend of his, who was well soaked with whisky at the time, that I feared that the former habits of the patient might affect him badly now. He answered: "What do you fear? Snakes? We neber get snakes." That remark of a drunken colored man directed my attention to the subject. From that time to the present I have not seen a case of delirium tremens among colored people. I have known frequently colored men and women addicted to the same habits, which in other nationalities lead to this condition. I have often met in the hospital, as well as in private practice, *mania a potu* in persons who had drank less than I believe some of the other class who escaped the disease.—*Toledo Medical Journal.*

[We would be pleased to hear from some medical practitioners in the South on this subject.—ED.]

## THE OPERATION OF SPAYING FOR SOME OF THE DISORDERS OF MENSTRUAL LIFE.

In a paper read before the Pennsylvania Medical Society, Dr. Goodell relates four cases in which he has performed the operation of spaying. The first was for the cure of menstrual disturbances dependent upon a fibroid tumor. The patient was a maiden lady, aged thirty-three, who had a subperitoneal fibroid tumor, dipping down to the bottom of Douglas's pouch, and reaching up to a point two finger-breadths above the umbilicus and to the left. The uterus was anteflexed, and the sound gave a measurement of only three inches. Menstruation was profuse, sometimes alarmingly so, lasting fully a week. She was never wholly free from pain, but one week before each period this pain began to increase, and steadily grew worse until it became unbearable, continuing without abatement through the period. Thus three weeks out of every four were virtually spent by her in bed. Treatment being unavailing, extirpation of the uterus was contemplated, but the author was led by the success of Dr. Trenholme's case to try first the effect of spaying. On October 4, 1877, both ovaries were removed by vaginal section. The hemorrhage was very trifling; no vessel needed tying, and not a suture was put into the vaginal wound. The right ovary looked healthy, but the left contained a small cyst. From that day the patient lost all her pains and aches, and they have never returned. The large fibroid tumor also rapidly lessened in size, until, six months later, it was no larger than a horse-chestnut.

In commencing on this case, the author refers to eleven others, making twelve in all, in which spaying has been performed for fibroid tumors. Of these three proved fatal; but, in each, the ovaries were removed by the more hazardous abdominal section. In one of Hegar's cases a hemorrhage occurred after five months, and the patient was afterwards lost sight of. In the remaining eight, convalescence was uninterrupted, the menopause was established, the tumor became smaller, and the women were virtually cured.

The second case was that of a young lady, aged twenty-seven, who had great hemorrhage at her menstrual periods, and exquisite suffering, not only at these times, but a week before and after. The uterus showed no lesion, and the pains radiated from each ovarian region. The ovaries were removed by the vagina. The pedicle was tied by silk, the others with gut; this latter broke, and the pedicle was then crushed off with the écraseur. Her recovery was a slow one, being retarded by a small pelvic abscess, which burst through the incision and discharged the knot of the silk ligature. Menstruation did not return, and her health became wonderfully better, so that she deemed herself perfectly well.

The third case was that of a married lady, aged thirty-seven, the mother of three children, the youngest ten years old. Her

illness dated from the birth of this last child. Agonizing pelvic pains at first entered in the monthly periods, then kept up for some time afterwards, and finally never left her. She now became bedridden, and an opium-eater. The uterus presented no other lesion than a slight enlargement. The ovaries were removed by vaginal incision on May 26, 1878. The hemorrhage was freer than usual; both ovaries seemed congested, and one showed a beautiful corpus luteum. Peritonitus set in on the second day, and, although it was limited to the pelvic regions, she died on the fourth day.

In the fourth case the operation was performed on account of insanity, the paroxysms of which appeared to be connected with menstruation. The patient was a married lady, aged thirty-eight, whose brain had given way from over-anxiety and from over-nursing a sick child during the summer of 1875. When seen by the author in 1878, she was subject to hallucinations, which came on several days before the appearances of her menses, and led her to become so violent as to need locking up. The attacks lasted during the continuance of the menses, and for a week afterwards. Two distinguished alienists held out hopes to her husband that with the change of life reason would return. The author found a congested and hypertrophied uterus, measuring 3.5 inches, and the left ovarian region exquisitely tender; the ovaries however, could not be outlined. The ovaries were removed by vaginal incisions on November 13, 1878. The patient recovered without a single bad symptom, although she twice jumped out of bed within the first week, and had to be forcibly put back, and held down. Menstruation did not return, but her mental condition has not improved. Notwithstanding this failure in the cure, the author is intending to remove the ovaries from an epileptic young lady, whose first fit began at her first menstruation, and whose present fits pivot around the monthly flux as a centre.

The chief point in which the author differs from several recent authorities is his strong preference for the performance of the operation of spaying by vaginal, rather than by abdominal section. This is based upon the ground of its greater safety, eleven deaths having occurred in thirty-one cases of operations by abdominal section, and only four deaths out of twenty operations by vaginal section. In the vaginal operation he has not yet tried the carbolic spray, but proposes to do so. Should it be found impossible to remove the ovaries by the vaginal incision he considers that the abdomen can afterwards be opened and the abandoned vaginal incision be utilized, if needful, as a drainage opening.

In the vaginal operation, the author places the patient on her back, not on her side, that air may be less likely to enter the peritoneal cavity. A duckbill speculum is introduced, and the perineum pulled downwards. The post-cervical mucous membrane is next caught up by a uterine tenaculum, and it

and the underlying peritoneum are snipped open for about an inch with a pair of scissors, of which he has found Kerchenmeister's to be the best. The index-finger of the left hand is then passed in, the uterus pushed down from above by the right hand, and each ovary brought down to the incision by the finger hooked into the sling made by the oviduct. The ovary is now seized by fenestrated forceps, and brought into the vagina. The pedicle is transfixed by passing a needle, armed with a double gut thread, between the ovarian ligament and the oviduct, and each half securely tied. The ovary is then removed, the ligatures cut short, and the pedicles returned. In three of the four cases the author closed the vaginal opening with the suture, but, in the case with the incision left unclosed, no protrusion of intestine took place.

From a collection of published cases of double ovariotomy during menstrual life, the author finds that out of 132 cases there were fifteen in which regular monthly fluxes continued, and nine in which such fluxes were either irregular or lessened in amount. The cause of this unexpected continuance of the menses, he attributes rather to the presence of a third or accessory ovary than to a portion of ovarium stroma having been unwittingly left behind. Thus Beigel, in 350 autopsies, found eight women with accessory ovaries. The author concludes by expressing his belief that the operation of spaying, in carefully selected cases, will prove the sole means for curing many mental and physical disorders of menstrual life, which have hitherto baffled our science, and are a standing opprobrium to our profession.—*Boston Medical and Surgical Journal*, June 19, 1879.

Dr. Tauffer, of Buda-Pesth, relates a successful operation of spaying in a case of congenital malformation. The patient was a woman twenty-five years old, who had never menstruated. From the age of fifteen, and more particularly from that of twenty, menstrual molimina had manifested themselves in the shape of severe pain in the pelvis and back. These attacks gradually increased, and at length became so severe that the patient remained in an unconscious state for hours together. Two years beforeshe had married, and after the marriage, her atrophic vagina had been made accessible by operation. After this the menstrual molimen only became all the stronger. Above the blind extremity of the vagina could be felt a hard body, as large as a nut (uterus). A band ran obliquely from this through the pelvis, on the right and left of which could be felt movable bodies, as large as nuts, and painful on pressure, which were concluded to be ovaries.

The operation was performed by an abdominal incision to the middle line. The ovaries were drawn into the wound, the pedicles tied with silk in two halves, and dropped. The convalescence was almost free from any symptom of fever. At the date of the report the period of menstruation had passed over three times without any inconvenience.—*Centralblatt für Gynäkologie*, June 21, 1879.—*Obstetrical Journal*, August, 1879.

### THE ADVANTAGES OF ALCOHOLIC SURGICAL DRESSINGS.

In the *Western Lancet*, July, Dr. A. E. Regensberger brings forward some evidence to show that alcoholic dressings are a prophylactic against erysipelas. He adds:

Alcohol possesses three advantages over many other dressings, which may be briefly formulated. 1st, simplicity; 2d, cleanliness; 3d, absence of all odor. Unquestionably, something that cannot be said of many of the complicated dressings in use at the present day. To convince one's self of the correctness of the above assertion, having used or having seen it properly employed for a short space of time, is all that is requisite. In applying this dressing all that is necessary is some alcohol and some charpie—no spray producers or other elaborate or costly paraphernalia. The piece of charpie is moistened with alcohol, and the wound, after being otherwise properly arranged on general surgical principles, is covered with it. The dressing is changed two or three times in twenty-four hours, care being taken to keep the charpie continually saturated with alcohol. In France a great many use *eau de vie camphrée* instead of alcohol alone. Whether the camphor adds anything to the efficacy of the alcohol I am not prepared to say, but I am rather inclined to think that it does not. Contrary to what one might suppose, the pain occasioned by the application of alcohol to a wound is not severe. The first two or three applications cause a slight smarting sensation, after which it is *nil*. Possessing all these advantages, and very few drawbacks, we trust that this method may receive a trial by the profession on this coast, and if it responds to the hopes entertained of it, that it may be used universally.—*Medical and Surgical Reporter.*

## EDITORIAL.

### THE DOCTOR vs. THE APOTHECARY.

The mutual dependence of the physician and apothecary is of such a nature that not only should their intercourse be cordial, but respect shown each for the other. The legitimate province of the former is to prescribe, the latter to see that the prescription is properly dispensed, and physicians should support those whose competency and honesty is assured.

A diploma from a recognized medical or pharmaceutical college should be the guarantee of this competency, but long study

and familiar acquaintance with the duties of the pharmacist might stand in its stead. Should this requisite be required, we feel assured that the number of stores would be limited, and the physicians have less to complain of incompetency.

If there is a single matter in the province of physicians, it is, that they have a right to have their prescriptions filled by apothecaries of their own selection. Time and again has the doctor failed to afford the relief expected, and often this has been the result of base substitutes or improperly compounded prescriptions. Not long since we had occasion to prescribe some calcined magnesia for an infant, judge our horror when we found that the sulphate of magnesia had been substituted. Example after example can be cited to at once establish the fact that there should be a demand for educated pharmacists.

It is time that the physicians of New Orleans were taking action to protect themselves from the impositions of druggists and apothecaries. The knights of the mortar and pestle, instead of attending to their legitimate duties, compounding the prescriptions of physicians and in good faith repeating these only when especially ordered, derive quite a revenue from the sale of repetitions; thus injustice is done the doctors, and the way is paved for weak-minded men and women to become the victims of opium, chloral or alcoholic drunkenness.

Is it dealing fair with the physician for the druggist to fill on demand an old prescription ordered for some particular case, but now lauded around and handed about by neighbors who administer the remedy in cases of sickness when the diagnosis is the result of no greater skill than that possessed by an old woman?

There is still another matter connected with this subject that demands careful consideration; we allude to the habit that we fear is universally common with apothecaries, and it is their habit of "counter prescribing." We speak knowingly when we say that there is a growth of this habit. Druggists prescribe daily for men, women and children whose faces they have never seen, and whose diseases are represented to be colic, costiveness, or fits, by that inevitable old woman in every neighborhood. The harm done by this complacency on the

part of druggists toward their neighbors is not to be estimated, as the facts are concealed from the physician or only accidentally exposed. This act on their part is only to be compared with the illegitimate sale of poisons, and both should be discountenanced by law and the medical profession.

To remedy the evils set forth, the druggists must come to the rescue. Let them form an association, admitting none others than those holding diplomas or strong evidence of their proficiency, appoint a committee to confer with the local medical societies, adopt rules that will thoroughly establish their status, and we will guarantee the hearty co-operation of the medical profession. Let it be known that extortion, counter prescribing, and repetition of prescriptions, unless expressly ordered, shall be discontinued, and we feel certain that their position will be appreciated and sustained by the profession.

## HYPODERMIC INJECTION OF MORPHIA.

Dr. H. Kane, No. 366 Bleeker street, New York city, is engaged collecting statistics in regard to the hypodermic injection of morphia, and wishes the experience of the profession throughout the country.

All communications strictly confidential unless permission is given by the writer to use his name.

The medical profession in New Orleans can undoubtedly add much valuable information on this subject and we hope they will respond fully to the inquiries made. He asks the following questions:

1st. What is your usual dose?

2d. Do you use it alone or with atropine?

3rd. What is the largest amount you have ever administered?

4th. Have you had inflammation or abscess at the point of puncture?

5th. Have you had any deaths or accidents caused by this instrument?

6th. Do you know of any cases of opium habit thus contracted?

When there has been an autopsy, (5) please state the fact and results.

# Reviews and Book Notices.

*Materia Medica and Therapeutics; Vegetable Kingdom.* By Charles D. F. Phillips, M.D., F. R. C. S. E., Lecturer on Materia Medica, Westminster Hospital, London. Edited and adapted to the United States Pharmacopœia. By Henry G. Piffard, A.M., M.D., Professor of Dermatology, University of the City of New York, etc. New York: William Wood & Co. New Orleans: Armand Hawkins, 196½ Canal street.

Another volume of "Woods' Library of Standard Medical Authors," adds to the success of the enterprise, a work of unquestionable merit. The arrangement of the drugs is according to botanical characteristics, and each is presented under the following heads: Active ingredients, physiological action, therapeutic action, illustrated by the effect in special diseases, and preparation and dose. A few unimportant articles of the materia medica are omitted by the editor and a number of indiginous and some of foreign origin are introduced.

We are informed that a second volume of this work, devoted to inorganic materia medica, is nearly ready for the press.

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*A Clinical Treatise on the Diseases of the Nervous System.* By M. Rosenthal, Professor of Diseases of the Nervous System at Vienna. With a preface by Professor Charcot. Translated from the authors, revised and enlarged edition by L. Putzel, M.D., Physician to the Class for Nervous Diseases, Bellevue Hospital, Out-Door Department, etc. New York: William Wood & Co. New Orleans: Armand Hawkins, 196½ Canal street.

The two volumes from the great German neuralogist will undoubtedly increase the popularity of "Woods' Standard Medical Authors." Professor Rosenthal has for years been a recognized authority among the German medical faculty, and his reception by the American medical profession will be cordial.

The work is systematic, and great care and thoroughness is exhibited in the diagnosis, prognosis and treatment of nervous diseases. Hydro-therapy and electricity receive especial prominence, and the former is taught with a degree of precision that will render this, almost unknown to us, system of practical avail.

*DeBow's Review.* New Series. Volume 1, No. 1. October, 1879.

This monthly publication was established in 1846 and for many years was conducted by its founder, whose name it bears. Devoted to the agricultural, commercial and industrial resources and progress of the country, particularly of the South, it achieved great success under the management of Mr. DeBow, being particularly valuable in the matter of agricultural and commercial statistics, in which its editor was most pains-taking and judicious. Like most publications in the South, the *Review* shared the general ruin, attendant on the late war, and a subsequent attempt to re-establish it under the management of its founder, Mr. DeBow, proved ineffectual, owing to the continued depression of the material interests of New Orleans and the Southwest.

The present is, however, a more favorable occasion, since there is evidence of a new era of prosperity ahead. At the same time the experience of Judge Burwell, acquired by many years of service in the commercial department of our daily journals, and that of the publisher, Mr. L. Graham, well known as the publisher of this *journal*, and a veteran in the typographical art, afford assurance that the management and execution of the *Review* will be ably performed.

The table of contents of this number includes the following subjects of carefully prepared articles: The Isthmus Canal; America Reacts on Europe; The Social Standard of the South; On to Sonora; The Western Iron Trade; Auxiliary Quarantine; Modern Egypt; together with editorial *resumés*, commercial, agricultural and financial.

We regard this publication as one deserving the encouragement and support of all who are interested in the prosperity of our country, particularly of the Great Valley, and if the introductory number of the new series be duly appreciated by the public, its success will rival that of bygone years. S. S. H.

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*Analysis of the Urine, with Special Reference to the Diseases of the Genito-Urinary Organs.* By K. B. Hoffman, Professor in Univ. Gratz, and R. Ultzmann, Docent in Univ. Vienna. Translated by T. Barton Bruns, A.M., M.D., Resident Physician Md. Univ. Hosp., and H. Holbrook Curtis, Ph.B. 8vo., pp. 269. New York: D. Appleton & Co. 1879.

This work, of course, was not intended as a complete trea-

tise on diseases of the kidney, but merely as a guide to diagnosis and prognosis. The first of the eight chapters into which it is divided treats of the Histology of the Urinary Organs; the second of the Excretion of Urine; the third of the Urine, as regards (A) its General Description, (B) its Physical Characteristics, (C) its Chemical Composition, (D) the Sediment, followed by a recapitulation on the analysis of urinary concretions; the fourth chapter describes the reagents and apparatus proper for approximate determination of urinary constituents; the fifth exhibits a quantitive determination of a few of the constituents of the urine; the sixth gives a key to the approximative analysis of the urine; the seventh treats of general diagnosis; and the last of special diagnosis of diseases of the urinary apparatus.

An examination of the book satisfies us that it has been carefully prepared and can be relied on for correctness. The new chemical notation is used, and also the metrical system of weights and measures. As an appendix to the text eight colored plates illustrate the solid constituents of the urine.

On the whole we regard the book as well adapted to its purpose and a decided convenience to the practitioner who aims at something beyond guess-work in diagnosis and prognosis of urinary disorders. S. S. H.

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*The Grounds of a Homœopath's Faith: Three Lectures delivered at the request of the Matriculates of the Department of Medicine and Surgery (Old School) of the University of Michigan.* By Samuel A. Jones, M.D., Prof. Mat. Med., Thera. and Experimental Pathogenesy in the Homœopathic Med. Col., Univ. Mich., etc. 12mo., pp. 92. Bœricke & Tafel, N. Y. and Phila. 1880.

The Lectures are upon the following subjects:

I. The law of Similars. Its claim to be a Science in that it enables Prevision.

II. The Single Remedy a Necessity of Science.

III. The Minimum Dose an Inevitable Sequence.

The above title is eminently appropriate, inasmuch as homœopathy is based wholly on faith, and is in reality a religion rather than a science. The *prevision* claimed as one of its achievements is another word for prophecy, which is *par excellence* a sacred gift, not claimed by any scientist. The distinc-

tive attribute of the homœopath is declared to be "Not the law of cure, not the infinitesimal dose, not the Hahnemannian hypothesis of Chronic Diseases; none of these, but simply this—his fixed faith in the efficiency of drugs." Another evidence of the religious character of homœopathy is the reverence felt for the author of the system by his followers, amounting to a belief in his infallibility and perfection quite akin to the homage paid to Moses, Mohammed and Joseph Smith. The great lights in medicine are more or less honored in their day; but their authority can not stay the onward march of science, and they are left as monuments of the past.

This is a land and an age of religious toleration, and no one should forbid the name of Hahnemann to be glorified, or scoff at the faith of his followers in the mysterious potency of the thirtieth dilution of gun-flint or common salt. To many minds such faith is not only a comfort, but a necessity. Distrustful of their own knowledge and understanding, they seek refuge in the mysterious and incomprehensible, rather than trust science in its acknowledged imperfections. Yet, with all its absurdities, homœopathy is not the worst form of idolatry. True, lives are sacrificed in its blind following; but the fittest survive in this mode of selection, and the race becomes improved, as it certainly must by the ravages of small-pox and other diseases made avoidable by enlightenment and prudence.

In the second lecture the single remedy is set up as the perfection of therapeutics, while noting the gradual progress from polypharmacy to simplicity in the history of medicine. One point, however, needs explanation for our unregenerate comprehension, and that is the invariable resort to alternate doses from two different remedies. Perhaps this is another mystery of the system, incomprehensible and therefore sacred; perhaps it was suggested by antiphonal modes of worship, as practised in other religious rites.

The last lecture traces a gradual diminution in dosage among medical men, but fails in establishing a connection with the infinitesimals of homœopaths. The potency developed by progressive dilution is probably one of the most sacred mysteries of the whole system, and undoubtedly the most awful in sublimity. Being incompatible with the established and under-

stood properties of matter, this astonishing capacity of multiplying force by division of substance becomes a veritable miracle, and ranks with the doctrine of transubstantiation.

The grammar and rhetoric of Dr. Jones are unimpeachable; the mechanical work of the little volume is excellent. In flexible binding, with Faith as its title-word, and its three chapters joined in one volume, it is peculiarly adapted for a manual to aid in propagating the gospel of Hahnemann. S. S. H.

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*American Health Primers. The Summer and its Diseases.* By James Wilson, M.D. Philadelphia: Lindsay & Blakiston. New Orleans: Armand Hawkins, Medical Bookseller, 196½ Canal street. 12mo., pp. 160.

This valuable little work tells in an admirable manner of the cause, prevention and treatment of summer diseases. The subjects taken up are: the Summer, Sunstroke, Summer Diarrhœa, Cholera Infantum, Summer and Autumnal Fevers, Summer Colds and Hay Asthma, and the Skin in Summer and its Diseases.

The wholesome advice contained within its pages should be known to every family, and we trust the little book will be appreciated.

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*Real-Encyclopädie der gesammten Heilkunde. Medicinisch-chirurgisches Handwörterbuch für praktische Aerzte.* Editor: Dr. Albert Eulenburg, Professor at the University of Greifswald. Publishers: Messrs. Urban & Schwarzenberg, Vienna.

From Messrs. Urban & Schwarzenberg, in Vienna, we have received the first number of "Real-Encyclopædia of the entire Medical Science, a Medical and Surgical Dictionary for Medical Practitioners."

Besides a catalogue of the articles to appear under the heading A, it contains a list of the coadjutors, numbering ninety, belonging mostly to academical institutions of Germany and Austria, and possessing already wide-spread reputation through former original productions. It contains, furthermore, an introduction by the editor, Prof. Eulenburg, in Greifswald, stating the object and design of the whole undertaking, and finally the text of the articles reaching from "*Aachen*" to "*Accommodation*" in alphabetical order.

In the introduction, the editor gives a historical synopsis of the undertakings of a similar character in the beginning of this century, and mentions the causes which, at that time, made their appearance desirable, and which at present are still more predominant. There is no doubt that the work, of which we now have the beginning before us, fills up an important gap in medical literature, and renders it possible for the general practitioner to keep pace with the progress of his science without having to gather the information he may desire from many different books; it presents the theories of modern science in a condensed form, and untrammeled by party opinions. The French literature possesses two modern works of a similar kind and tendency (Jaccoud, Dechambre), enjoying great popularity in France, having, through numerous articles of a monographic character, considerable scientific importance. The editor thinks that he may claim the same for this new German Encyclopædia; not only the names of his coadjutors and his own reputation, but especially the contents of the articles published in this number we have before us, warrants that he is not deceived by illusions in this respect.

The first number of the work (it covers 80 pages, and is furnished with numerous illustrations) contains, besides other articles, elaborate ones about Aachen (Lersch), Abdominaltyphus (Zuelzer), Abführmittel (L. Lewin), Abortus (gynæcological, Kleinwächter, and medico-forensic, Hofman), Abscess (Landois), as well as the beginning of the article "Accommodation" (Schmidt—Rimpler). We shall look for the continuance of this work with great interest. The first volume will be published during the present year, and the whole work is expected to be completed in course of 3–4 years.

## Books and Pamphlets Received.

*Laceration of the Cervix Uteri.* By A. Reeves Jackson, A.M., M.D., Formerly Surgeon-in-Chief of the Woman's Hospital of the State of Illinois, etc., etc. Reprint ftom the Chicago Medical and Surgical Journal and Examiner for August, 1879.

*Eyesight and How to Care for It.* (American Health Primers.) By George C. Harlan, M.D., Surgeon to the Will's Eye Hospital, etc.

*Student's Pocket Medical Lexicon.* By Elias Longley, Philadelphia, Pa.

*Reference and Dose Book.* By C. Henry Leonard, M.A., M.D.

*Sexual Neuroses.* By J. T. Kent, A.M., M.D.

*Annual Catalogue of the Sayre Female Institute, Lexington, Ky. 25th Session*, 1878-9.

*Report of the Special Committee on Medical Education, before the Illinois State Medical Society. Twenty-ninth Anniversary.*

*Presidential Address before the American Medical Association at its Thirtieth Annual Session held at Atlanta, Ga., May 6*, 1879.

*Physiological Antagonism the Therapeutic Law of Cure.* By Electus B. Ward, M.D., Assistant to the Chair of Practice of Medicine in the Long Island College Hospital, Brooklyn, N. Y.

*Buildings for Insane Criminals.* By Walter Channing, M.D., Boston, Mass. A paper read at the Conference of Charities in Chicago, June 11, 1879.

*Sanitary Problems of Chicago, Past and Present.* By J. H. Rauche, M.D., Chicago.

*Proceedings of Alumni Association of Rush Medical College, Chicago*, 1879.

*On the Connection of the Hepatic Functions with Uterine Hyperæmias, Fluxions, Congestions, and Inflammations, with Appendix.* By L. F. Warner, M.D., Boston, Mass., Vice-President of the Gynæcological Society of Boston and Physician to St. Elizabeth's Hospital for Women, etc., etc. Reprint from the Transactions of the American Medical Association, 1878.

*Franco-American Commerce. Statements and Arguments in Behalf of American Industries against the Proposed Franco-American Commercial Treaty.*

*College of Physicians and Surgeons, New York Medical Department of Columbia College, Seventy-second Annual Catalogue, Session of* 1879-80.

*North Carolina Board of Health—Method for performing Post-Mortem Examinations.*

*Statement of the Board of Health of Galveston of the Reasons for the Establishment of Quarantine against New Orleans, on July* 21, 1879.

*Reflex Cerebral Hyperæmia.* By C. H. Hughes, M.D., St. Louis, Mo. Reprint from the St. Louis *Medical and Surgical Journal*, June, 1879.

*History of the Discovery of Anæsthesia.* By J. Marion Sims, M.D., M.A., L.L.D., New York, author of "Silver Sutures in Surgery," etc. etc., Member of the Historical Society of the City of New York. Honorary Fellow of the Royal Academy of Medicine of Brussels, etc., etc., etc. Reprint from Virginia Medical Monthly, May, 1879.

*The Student's Guide to the Diseases of Women.* By Alfred Lewis Galabin, M.A., M.D., F.R.C.P., Assistant Obstetric Physician and Joint Lecturer on Obstetric Medicine to Guy's Hospital, etc., etc.

*Emotional Prodigality.* By C. Fayette Taylor, M.D. Read before the New York Odontological Society, March 18, 1879. Reprint from the "Dental Cosmos," July, 1879.

*On the Priority of the Discovery and Use of Intentional Anæsthesia.* By J. M. Taylor, M.D., of Corinth, Miss. Reprint from the twelfth volume of the Transactions of the Mississippi State Medical Society, 1879.

*Observations on the Mechanical Treatment of Disease of the Hip-Joint.* By Charles Fayette Taylor, M.D. Reprint from the Boston Medical and Surgical Journal, March 6, 1879.

*Vegetarianism, the Radical Cure for Intemperance.* By Harriet P. Fowler.

*On Chlor-Stannic Acid.* By J. W. Mallett, F.R.S. Reprint from the Journal of the Chemical Society, August, 1879.

*Annual Announcement Savannah Medical College, Session of* 1879-80.

*The Thermantidote. An instrument for preventing the evil effects of heat from Paquelin's Thermo-Cautery when operating in deep cavities.* By H. C. P. Wilson, M.D., Baltimore, Md. Surgeon in charge of the Women's Department of the Union

Protestant Infirmary, etc., etc. Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland.

*Remarks on Ovariotomy with Relation of Cases and peculiarities in Treatment.* By Nathan Bozeman, M.D., New York, Surgeon to the Women's Hospital of the State of New York, etc. Reprint from the Medical Record, July and August, 1879.

*The Use and Abuse of the Obstetrical Forceps.* By Thomas Kennard, M.D. Read before the St. Louis Medical Society. Reprinted from the St. Louis *Medical and Surgical Journal*, July, 1879.

*A New Operation for Entropion and Trichiasis.* By F. C. Holz, M.D., Ophthalmic Surgeon to Illinois Charitable Eye and Ear Infirmary, and to the Alexian Brothers' Hospital, Chicago. Published in the *Archives of Ophthalmology*, Vol. viii, No. 2.

*The Yellow Fever Germ on Coast and Inland.* A discussion of ship and railroad quarantine before the Medical Association of Georgia, Rome, April 18, 1879. By Henry Fraser Campbell, M.D., Augusta, Ga. Reprint from Transactions.

*Notes of Hospital and Private Practice.* By Henry Gibbons, Sr., M.D.

*A few well-established Facts in connection with Squint.* By Julian J. Chisolm, M.D., Professor of Eye and Ear Surgery in the University of Maryland; Surgeon-in-charge of Baltimore Eye and Ear Institute, etc., etc. Reprint from Transactions of Medical and Chirurgical Faculty of Maryland.

*A Reply to Dr. John Van Bibber on the Future Influence of the John Hopkins Hospital on the Medical Profession of Baltimore.* By John S. Lynch, M.D., Professor of Principles and Practice of Medicine in the College of Physicians and Surgeons, etc., etc. Reprint from *Southern Clinic.*

*Microscopical Studies on Abscess of the Liver.* By J. C. Davis, M.D., Denver, Colorado. Reprint from *Archives of Medicine*, August, 1879.

*Dermatitis Venenata, or Rhus Toxicodendron and its Action.* By Roswell Park, A.M., M.D., Assistant to Chair of Anatomy, Chicago Medical College; Surgeon to South Side Dispensary, etc.

## Meteorological Summary—September, 1879.

### Station—New Orleans.

| Date. | Daily Mean Barometer | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. |
|---|---|---|---|---|---|
| 1 | 29 48 | 79.2 | 79.3 | S. E. | .34 |
| 2 | 29.81 | 80 2 | 70 3 | West. | .... |
| 3 | 29.97 | 80.7 | 68.3 | West. | .00 |
| 4 | 30.01 | 82.0 | 62.3 | East. | .00 |
| 5 | 30.08 | 80.0 | 67.0 | N. E. | .00 |
| 6 | 30.06 | 80.7 | 62.7 | East. | .00 |
| 7 | 30.05 | 83.2 | 75.3 | S. E. | .... |
| 8 | 30.05 | 83.2 | 66.7 | West. | .... |
| 9 | 30.06 | 84.0 | 71.3 | East. | 00 |
| 10 | 30.11 | 78.7 | 76.3 | N. E. | .09 |
| 11 | 30.13 | 79.5 | 76.7 | East. | .06 |
| 12 | 30.05 | 79.0 | 79.3 | East. | .77 |
| 13 | 30.02 | 73.5 | 82.7 | North | .19 |
| 14 | 30.04 | 76.0 | 59.7 | North | .00 |
| 15 | 30.04 | 76.0 | 55.7 | N. E. | .00 |
| 16 | 30.05 | 77.5 | 59.3 | N W. | .00 |
| 17 | 30.07 | 77.7 | 60.7 | East. | .00 |
| 18 | 30.02 | 80.0 | 59.3 | East. | .00 |
| 19 | 29.96 | 79.5 | 65.7 | East. | .00 |
| 20 | 29.93 | 80.0 | 66.0 | N. E. | .... |
| 21 | 29.92 | 78.0 | 70.0 | North | .00 |
| 22 | 29.98 | 74.2 | 72.3 | N. E. | .... |
| 23 | 30.06 | 75.0 | 87.3 | East. | 25 |
| 24 | 30 12 | 77.2 | 86.3 | East. | .48 |
| 25 | 30.11 | 78.5 | 78.0 | North | .00 |
| 26 | 30.13 | 77.2 | 63.0 | East. | .00 |
| 27 | 30.14 | 75.5 | 66 3 | East. | .00 |
| 28 | 30.10 | 75.7 | 73.3 | East. | .00 |
| 29 | 30.07 | 76.5 | 70 7 | East. | .00 |
| 30 | 30.11 | 76.0 | 86.3 | East. | .97 |
| Sums | | | | | |
| Means | 30.025 | 78.5 | 70.6 | East. | 3.15 |

#### General Items.

Highest Barometer, 30.183, on 27th.
Lowest Barometer, 29.361, on 1st.
Monthly Range of Barometer, .822 in.
Highest Temperature, 90° on 9th.
Lowest Temperature, 65° on 15th.
Monthly Range of Temperature, 25°.
Greatest Daily Range of Temperature, 17° on 15th and 18 h.
Least Daily Range of Temp., 5° on 1st.
Mean of Maximum Temperatures, 83.3°
Mean of Minimum Temperatures, 71.0°
Mean Daily Range of Temp., 12.3°.
Prevailing Direction of Wind, East.
Total Movement of Wind, 6,021 miles.
Highest Velocity of Wind and Direction, 40 miles, Southeast, on 1st.
Number of Foggy Days, 0.
Number of Clear Days, 14.
Number of Fair Days, 7.
Number of Cloudy days on which no Rain fell, 2.
Number of Cloudy Days on which Rain fell, 12.

#### Comparative Temperature.

| | | | |
|---|---|---|---|
| 1871 | | 1876 | 79.1° |
| 1872 | | 1877 | 78.4° |
| 1873 | 78.8° | 1878 | 78.7° |
| 1874 | 78.9° | 1879 | 78.5° |
| 1875 | 76.6° | 1880 | |

#### Comparative Precipitation.

| | | | |
|---|---|---|---|
| 1871 | inches. | 1876 | 0.26 inches |
| 1872 | " | 1877 | 13.21 " |
| 1873 | 3.19 " | 1878 | 2.64 " |
| 1874 | 4.21 " | 1879 | 3.15 " |
| 1875 | 7.89 " | 1880 | " |

## Mortality in New Orleans from September 21, 1879, to October 19, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| September 28. | 2 | 6 | 9 | 0 | 0 | 86 |
| October 5. | 0 | 6 | 13 | 0 | 6 | 85 |
| October 12. | 0 | 7 | 21 | 0 | 3 | 87 |
| October 19. | 1 | 7 | 22 | 0 | 1 | 88 |
| | | | | 0 | | |
| Total.... | 3 | 26 | 65 | 0 | 10 | 346 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

DECEMBER, 1879.

## ORIGINAL COMMUNICATIONS.

### Acute Rheumatic Arthritis.

The word rheumatism has of late years been subjected to severe criticisms by cotemporary authorities, both in our country and in Europe.

This name being regarded, especially in Germany, as a misnomer, particularly by such authorities as Senator, Heule and Hueter, and have in consequence adopted the adjective rheumatic, and have applied it to each and every part effected, thinking it to be more appropriate to the progress of morbid anatomy and of etiology, and keeping within the limits of our present knowledge, and that rheumatism, whilst not aspiring to anything beyond a merely symptomatic conception of the majority of diseases, includes diseases radically heterogeneous.

These authorities argue that in discarding the name and group rheumatism, and adopting the epithet rheumatic, they simply obey the usual custom in pathological nomenclature, in distinguishing those diseases whose morbid anatomy has been thoroughly investigated (the articular class), arthritis, arthomeningitis, or poly-arthritis, according to the parts chiefly or exclusively involved; while the muscular affection, about whose anatomy less is known, broadly as myopathies; or since pain is the leading feature in most of them as myalgias, both the articular and the muscular class of these affections being termed rheumatic, in order to distinguish them from symptoms

and structural alterations of a similar kind arising from other causes.

Acute rheumatic arthritis is a peculiar specific kind of inflammation and exudation into the joints, and has at first the characteristic development and appearance of all inflammation, that is, swelling, heat, pain and redness. It is essentially a febrile constitutional disease, often ushered in by one or more chills. It is often due to a sudden suppression of some of the important functions of the economy—mostly those of the surface of the body. It is often one of the most potent causes of organic diseases of the heart. Though a very common disease, and but rarely fatal, is always liable to cause permanent deformity, and is often followed by serious destructive complications. Cold, dampness, poor food, and improper clothing, are important causal factors. It is thought to be a blood poison, due to presence of acids, probably lactic acid in the blood. The principal tissues of the body affected are, the white tissues, such as sheaths of muscles, capsular ligaments, periosteum, and serofibrous tissues of the heart.

It is advanced by Professor Stille, that it is not, in the proper sense of the term, a true inflammation, and he basis his view on the fact, that though in all instances accompanied by fever, there is but slight, if any tendency to suppuration, and that he has never met with such a result, and that rheumatic arthritis seldom leaves behind it the results of inflammation in the joints themselves, however severe has been the attack. When lesions have been found after death, and such cases are of exceeding rarity, they have undoubtedly been the result of an arthritis due to other causes, such as pyæmia, and that by a pyæmia he means a general blood-poison, accompanied by a tendency to suppuration all over the joints as well as elsewhere.

Before proceeding further, it might prove of interest to record the progress of the study of this disease. Even in the fourth century we find that Hypocrates was familiar with a form of arthritis, attended with fever, during which now one, now another joint became painful, occurring by preference in the

young, and seldom proving fatal. Sydenham drew a line of distinction between gout and rheumatism, calling the former podagra. Cullen first drew attention to the inflammatory character of the joint affection, and separated it not only from gout, but also from chronic rheumatic arthritis, and from rheumatic affections of the muscles. Even in the present century Chomel, Pidoux and Alexander grouped the two affections as divers manifestations of one and the same humoral vice—a rheumatic or gouty dyserasia. It is only of late years that this view has been altogether abandoned.

To Wells is attributed the first demonstration of the special frequency of cardiac mischief in the forms of pericarditis, endocarditis and myocarditis occurring from rheumatism, and designating them as rheumatism of the heart. Chomel, Andral and Bouillaud more particularly drew general attention to the cardiac complications of acute rheumatism.

Hervey, the Chégoin, in 1845, called special attention to the occurence of severe cerebral symptoms in certain unfavorable cases of this disease.

A rapid rise of temperature has, within a decade of years, been observed to precede the fatal issue in acute rheum-arthritis—or the so-called metastatic rheumatism. Finally, Griesinger was the first to notice the relation of certain forms of insanity to a previous attack of rheumatic-polyarthritis. He believed them to be especially connected with the rheumatic process.

## ETIOLOGY AND PATHOGENY.

Climate and season favor the development of rheumatic fever According to Hirsh it is preeminently a disease of temperate latitudes. It is rarely met in the polar regions. In temperate latitudes, especially in Northern and Central Europe, the distribution is highly irregular. In many parts, such as in Cornwall, Guernsey, and the Isle of Wight, in the Belgian Canton of Beauraing in Jekaterinoslaw, the disease appears to be unknown or excessively rare. In temperate climates the maximum prevalence is from October to May, while there is a falling off during the summer months. Athmospherical influences have at times, produced epidemics of rheumatism, Lange, Pringle, Lancisi, Stoll, Mertens and Stoerek.

Lebert says that the year 1857, at Zurich, was noted for the prevalence of the disease.

The special predisposing causes of rheum-arthritis, are occupation and mode of life, and exposure to extreme changes of temperature, and insufficient protection during active bodily exertion, and also the habitation of damp houses; but this seems less prone to cause the acute, than the chronic form of articular inflammations and myopathies. Age is an important factor; youth and manhood are especially liable; the favorite period being between purberty and the age of thirty; from 30 to 50 years coming next in order. After 50, first attacks are extremely rare; subsequent ones are less uncommon. Children are seldom affected before the fourth year, becoming more common after the fifth year, obviously, on account of the development of muscular activity, when out-door pursuits and school going furnish more opportunities of exposure." (Stillé.)

The instances of the record of children prior to the age of 4, or at the breast, are so rare as to lead to the inference that they are due to errors of diagnosis. Beyond 60 years, it is reported to be impossible to find a record of a first attack. Sex does not seem to predispose, excepting where the calling exposes the one or the other to injurious influences. A first attack predisposes to others, and this is increased by subsequent ones. Intervals between successive illnesses becoming progressively nearer, while the subsequent ones become more lasting, and the local disturbances becoming of a more severe nature, ultimately lapse into a chronic state. Intervals of three to five years usually, sometimes even ten years, intervene between second attacks. Comparatively, but few persons have more than one or two attacks. The disease occurring in early life is prone to be complicated with cardiac mischief, to which the patient soon succumbs.

Certain diseases predispose to the affection, especially scarlet fever, typhoid, dysentery, and the puerperal state. In scarlet fever the period of desquamation is the period of danger, while in dysentery and typhoid only after recovery and during convalescence. Among the existing or accidental causes of the disease, chilling of the surface takes a prominent place, especi-

ally sudden cooling of the body when heated by exertion and exhausted and perspiring. Opportunities of catching cold are more abundant during the frequent and sudden changes of temperature, particularly in the spring and in autumn, attributable to their cold and dampness. Many cases occur in which neither a chill nor any exciting cause can be discovered. Senator mentions that he met with some in which the disease followed closely upon severe emotional disturbances, fright, for instance, the patients having been overheated at the moment, but denying having been exposed to any source of cold. He instances a case due to fright, from an outbreak of fire whilst dancing in a ball room. Cold is thought to produce it by carrying away caloric, while dampness not only deprives the body of caloric and of electricity, but also exerts a depressing influence upon all the functions of life. Not only do the cold and dampness carry these vital stimulants, but they prevent exhalation, and so cause the retention of effete material within the body. (Stillé.)

The joints, according to Dr. Stillé, suffer more than other parts of the body from the influence of cold and dampness, or affect them sooner because they are not protected by muscles and fat, and have less blood and therefore less heat in them; and again, cold is prone to produce temporary suspension of habitual discharges, menses, the flow of milk and the secretion of pus. Whatever produces a suspension of discharges, may of course bring on rheum-arthritis, but cold and dampness, when they check such discharges, always produce such.

### ACUTE RHEUMATIC ARTHRITIS A BLOOD POISON.

Not attempting to enumerate the many and various theories which are advanced to explain the real and direct cause of the disease, there is one of quite recent date which is preëminent among all the rest, as clearing of very many dark points, and is, that the phenomena of acute rheumatic arthritis are all caused by the accumulation and retention of lactic acid and of other acid products in the blood. Through the beneficial effects and the marked reduction in the quantity of sugar in the urine of the diabetic by the administration of lactic acid, Dr. Foster, of England, during the treatment of a diabetic patient, perceived that at each three distinct administrations

of lactic acid during the same attack of diabetes, he produced each time a well marked attack of acute rheumatic arthritis—this patient never having had a previous attack of rheumatic arthritis. Each time the drug was suspended, the rheumatic phenomenon disappeared without any other treatment. Whether, says Dr. Stillé, the remarkable and consistent effects of lactic acid in the case of Dr. Foster's show any real and palpable connection between the assumed cause of the disease and its real cause, whatever that may be, I do not know; but of one thing I can be absolutely certain, and that is, that the lactic acid in this case at least, if not in ordinary cases of acute rheumatic arthritis, directly produced the actual symptoms peculiar to acute rheumatic arthritis.

The acidity of the blood in this disease has been conclusively proven to be greater than in any other affection, while the salutary and immediate effect of the administration of alkalies in its treatment gives additionally strong support to the idea that all the trouble is caused by the over-abundance of some acid in the circulation, whether that acid be lactic acid or not. That acute rheum-arthritis is due to blood poisoning there is no doubt. Rheumatism, says again Dr. Stillé, means a defluxion of some humor upon the joints. This old definition is confirmed by the most recent researches. It is a general systemic disease which assumes a local form.

PATHOLOGY.

The inception of acute rheum-arthritis is manifested by the violence or mildness of the attack; in the one ushered in with severe shivering, high temperature, and great pain in the joint or joints affected; in the other with scarce an initial chill, with a corresponding amount of local manifestation. The elevation of temperature is usually moderate, seldom exceeding 102° and 104° F. The skin is not very hot to the touch, and is usually bedewed with perspiration, which has a sour odor. The urine is scanty, concentrated and of high specific gravity, is strongly acid, and deposits brick-red urates, and free uric acid crystals and urates of soda. Tongue moist and coated with a whitish fur; bowels usually confined; joints, one or more are simultaneously or successively affected. The inflammation has a great

tendency to leave its seat and migrate to another joint, or to all the other joints at once, or to one of the internal organs. Here, again, Dr. Stillé says, lies another proof that we have no local disease to deal with. The severity of the attack depends often in the number of joints implicated, and by many it is thought that heart complications are due to a multiplicity of joints affected, or at least to several or more joints. The disease is usually bilateral. The inflammation may return anew to the same joint or joints of origin. Affected joints are swollen, red, hot, and painful to the touch. The pain may amount to only a simple feeling of tension, or it may be lancinating, or throbbing, or boring, and often of an intolerable degree. The disease may affect also the fibrous tissues of the hands, instep, nucha and back, the sclerotic coat of the eye, and Dr. Thomas Buckler, of Baltimore, says, the joints of the ossicles of the ear. The intensity of the fever is proportionate to the number of joints affected and intensity of local sysmptoms. The fever often shows notable remissions, with a corresponding diminution in the arthritic symptoms. Exacerbations frequently occur about evening; sleep is interrupted by the severity of local symptoms. The decubitus is painful, motionless—a breath of air, a touch of the coverings produces the most violent exacerbation of pain.

The mind is generally unclouded, except in rare exceptions, or unless there is cerebral complication. The disease is self-limited, and may go on for weeks or even months—generally from six to eight weeks. It may be much prolonged by complications. It becomes chronic in a small minority of cases.

Sub-acute rheumatic arthritis is distinguished by the mildness of all corresponding symptoms and disturbances. Death is often due to a sudden, rapid rise of temperature. A notable hyperpyrexia distinguishes some cases, the thermometer showing a rise from 107 to 112°. The disease may prove fatal under these circumstances, without any grave local complication, death being attributable to the high temperature. These cases are characterized as malignant. Delirium, convulsions and coma are sometimes associated with the high temperature. Convalescence from a severe attack is generally very slow.

MORBID ANATOMY.

Acute poly-arthritis, *per se*, being rarely fatal—opportunities of studying structural alterations do not often occur. Even the special changes found are so trifling as to have added little knowledge concerning the essential nature of the disease, and in such instances have only confirmed the observations during life; acute inflammatory process are often very indistinct after death. The amount of effusion after death, does not correspond always to the amount recognized during life. The presence of fluid differs from ordinary synorria by its greater fluidity. True, pus is exceptionally found in rheum-arthritis. In former times when vivisection was employed, the blood drawn was found to be very florid in appearance, and threw up upon allowing to stand, a thick buffy coat. In some cases the proportion of the fibrin in the blood, was found to have risen from two and a half parts in one thousand (parts of blood) to five and even eight parts in the same amount. This great excess of fibrin in the blood is a very interesting pathological fact. In no other disease is the fibrin so greatly in excess—according to Dr. Stillé there is but one plausible explanation of this phenomenon. That it may be due to an arrested development of the white corpuscles whose destruction would render intelligible the extreme pallor and debility of patients suffering from this disease; it being at present a seemingly well established fact that the red corpuscles are formed directly from the white (corpuscles). The loss of strength is due to the enormous waste of tissue brought about by the excessive discharge of solids in the urine.

Becquerel and Rodier found the serum to contain less than its due proportion of solids. The blood is usually firmly coagulated after death; it is dark and fluid only in such cases as prove rapidly fatal with a sudden rise of temperature. The abnormal development of lactic acid according to Todd, Fuller, Bouchardat and alias, in the blood during life, has often been assumed but never proved to occur.

Complications, especially with the thoracic viscera are usual. In cases which run their course with a high temperature and severe cerebral symptoms, parenchymatous degeneration of

particular organs, or swollen condition of the hepathic cells and renal epithelia, are said to have been found, the brain itself being free from morbid change, or else, markedly congested with minute extravasation of variable amount of œdema in the pia mater and arachnoid. (Senator.)

There is frequently some kind of eruptions accompanying attacks of rheum-arthritis. Sudamina are very common. Erythema, both simple and nodose, occasionally appear and also at times urticaria.

Small quantities of albumen may be found during one or more days, without the presence of any other signs of renal mischief. The phenomenon is propably due to an increase in the intensity of the pyrexia.

NERVOUS SYSTEM.

Most cases of rheum-arthritis are in general free from cerebral symptoms—in certain unfavorable cases, however, the nervous centres may be variously involved. Such as acute cerebral or spinal meningitis, mental alienation or severe brain symptoms without any more demonstrable lesions of the structure than are met in enteric and other infective maladies. Drunkards or broken down constitutions are most liable to severe cerebral disturbances and in these, the disease though not at first of a very severe type; soon assumes an irregular march, marked by early delirium, the temperature undergoes a great and sudden rise; the skin becomes hot, the abundant sweating often subsides, the pulse becomes hurried and compressible, the sensorium much oppressed, the face cyanotic and pale and after an interval of a few hours or a few days ends in death. With regard to this abrupt rise of temperature, Senator ventures the following: That it may be that the pyrogenic and phlogogenetic matters which are undoubtedly present in the blood undergo a great and sudden increase, and paralyze the heart regulating centres, or stimulate centres presiding over heat production; or we may suppose that the primary effect of those substances is to paralyze or at any rate to weaken the heart contractions and thereby to reduce the amonnt of heat given off.

FEBRILE PHENOMENA.

The fever is proportionate to the number of joints interested and to the intensity of the inflammation and runs no typical course. Initial signs occur barely in half of the entire number and is not usually severe, generally speaking several slight fits of shivering take place, and are followed by a sense of warmth on the first day. In all, except the mildest cases, the temperature runs up to 102° F., or a little higher. Evening exacerbations occurring on subsequent days may bring it to 104°. In its further progress the temperature obeys no definite rule. Periods of remission or even complete intermission lasting for twelve or even twenty-four hours are very common, and they are always followed by moderate febrile reaction and an exacerbation of the disorder, a rapid subsidence is rare, the fall being gradual, extending over several days. A rise of temperature is the first symptom recognized in the onset of complications. A correspondence between the temperature and the pulse rate is not always maintained. A quickening of the pulse occurring without the rise of temperature is often due to the severity of the pain and the consequent mental excitement.

In severe cerebral symptoms the temperature reaches the highest limits, except in sunstroke (I believe) ever noticed in the human subject, some reaching as high as 111 and 112° F. before death.

COMPLICATIONS.

Fewer diseases present such a great variety of complications as poly-arthritis. They occur in both the mild and severe form, though, perhaps, more often in the latter. They may take place at an early stage or at the height of the disease; perhaps less often when declining. They are sometimes found setting in simultaneously with the joint affection, or even proceeding the latter by a short interval, so as to make it doubtful which of the two is the primary disease. The most frequent of the complications are pericarditis and endocarditis; of the two, endocarditis occurs the most frequently, but pericarditis is attended with far greater danger to life. Rheum-arthritis seems to be associated with a tendency to disease, especially to inflammation of internal organs. Recovery from pericarditis

may be expected in the majority of cases. Endocarditis offers no immediate danger, but is of great importance as being often the starting point of slowly progressing changes which result in serious lesions, after the lapse of many years. Generally pericarditis accompanies endocarditis. This complication occurs shortly in severe forms of acute rheum-arthritis, though it may happen in cases of the sub-acute form. These heart complications are much more common in the young than in older patients; nay it may be laid down as a law, that the younger the patient the greater the risk of his heart becoming affected. The risk is greater before puberty. It is generally accepted that the heart is implicated in fully one-third of all cases occurring during this period. This danger continues great until about the twenty-fifth year of life—after that period endocardial complications are the exception—save when organic mischief has left a predisposition to renewed inflammatory changes.

Inorganic or functional murmurs, very common in polyarthritis are a fertile source of error, and the semblance of cardiac inflammation is further increased by pain in the pectoral and intercostal muscles, or in the diaphraghm with the feeling of oppression, the dyspnœa, and the acceleration of the pulse, with which they are associated. Pleurisy and pneumonia occur often also, in rheumatic arthritis. Bilateral pleurisy has been often observed.

Inflammation of various mucous surfaces is not unusual, specially bronchitis, also pharingitis and cystitis. Among cerebral complications, meningitis and spinal meningitis occasionally occur. Insanity of a true type not abscribed to the rapid rise of the temperature, but promoted by the pain and want of sleep, pointed out by Tuengel, and exhibiting every variety of excitement and depression from well marked mania to melancholia. Sometimes of short duration, at others protracted into the period of convalescence, persisting after complete recovery and constituting the protracted form of rheumatic brain disease. It may also determine an outbreak of delirium tremens in drunkards. When endocarditis exists, symptoms of cerebral disturbance may be caused by embolism of the arteries of the brain.

DIAGNOSIS.

Rheumatic polyarthritis, though offering no difficulty of diagnosis by its characteristic symptoms of joint affection and fever, may yet be easily overlooked by not carefully differentiating certain symptoms which are associated in other diseases with inflammations and neuralgic pains in the joints. Foremost among these is pyæmia. Where such doubts exist, we should look for some local suppuration antecedent in point of time to the articular malady. In default of this sign, the rigors and the temperature variations, the occurrence of metastatic deposits in other organs, especially in the lungs, the profound constitutional disturbance, the disorders of the sensorium, the icterus—all of them phenomena which scarcely ever occur in rheum-arthritis. Many diseases of a pyæmic nature, certain varieties of puerperal fever, for instance, in which the characteristic febrile symptoms and the phenomena localized in the generative organs are not well marked, may puzzle a good deal at first, but are usually set at rest by a future course of development. What is true of pyæmia is also of glanders. But the patient's history, employment, the presence of abscesses in the muscles, pustules and ulcers on the skin and the nasal mucous membrane—finally the onset of delirium and utter break-up of the system, must assist as distinguishing marks. Gout is not easily mistaken for the disease, on account of the advent during the night, and after prolonged gastric disturbances, and further, that it manifests itself in the beginning in a single joint, and that a toe-joint. Again, the advanced time of life of the first attack, contrary to rheum-arthritis.

Traumatic arthritis is very unlikely by its association to injury; scrofulous arthritis by its chronic course, its tendency to pus formation, and other signs of scrofula.

The articular or hysteric neuroses described by Brodie, Stromeyer, and especially by Esmarch, are absolutely apyretic, but may nevertheless suggest the possibility of mild poly-arthritis. Absence of fever and any palpable alteration in the painful joint, its limited character, its freedom of pain during sleep, when any position may be imposed to the affected limb, the

constitution, and above all the mental state of the patient, who is usually of the female sex, and finally the prolonged duration of the symptoms. From certain pains in the anæmic, in the subjects of scurvy, puerpura hæmorrhagica and hæmophilia are often purely neuralgic, unattended by any change or swelling of the joints, and never pass into the graver forms, nor followed by complications and by sweating, which is so constant a feature in rheum-arthritis.

In infancy, various forms of multiple inflammation about the joints are met with which may simulate the disease, such as acute rickets, syphilitic ostreochondritis, and separation of epiphysis, due to many other causes. The early period of life in which they occur is sufficient to distinguish them.

### ISSUES AND SEQUELÆ. PROGNOSIS.

Death is usually rare, being due more to complications or unfavorable conditions of patients than to joint affection, even when this is severe. In most of the fatal cases death is usually due to sudden rise of temperature, and in persons of intemperate habits. In a small proportion of cases, death is due to complications during the poly-arthritis, and most frequently by peri- or endocarditis, more rarely by meningitis.

The ultimate issue in non-fatal cases depends on the presence and nature of complications. The prognosis is favorable in the very mildest, which have followed a sub-febrile temperature. As long as there is fever the prognosis must be left doubtful, excepting after the third week, when complications rarely arise. Youth being most prone to heart complications, the chances of complete recovery are less promising in these than in adults, owing to the risk of permanent disease in that organ.

Chorea is a frequent accompaniment of mitral valve affection. At 25 years the disease usually terminates in complete recovery, with the exception of a remaining tendency to renewed attacks at variable intervals of time. Permanent alterations in one or more joints are left, only in a relatively small number of cases who have undergone a very intense or protracted attack; that is, chronic inflammatory conditions liable to exacerbation from trivial causes—thickening, ankilosis, and even ulcerations. Such consequences are more common after re-

peated attacks, and especially after the sub-acute forms of rheum-arthritis, or such as drag on for a length of time.

Mental disease, in the form of melancholia, is more common as a sequelæ in adults than in children. Orchitis is mentioned by Duffy as a sequelæ of the disease in Malta, and that it usually ends favorably.

The prognosis is upon the whole a favorable one.

TREATMENT.

The disease tends to recovery after a self-limited duration, varying from a week to two months. The treatment of acute rheumatic arthritis, apart from complications, nearly always gets well, and may be abandoned to palliatives and nature, and to rest and good nursing. But it would hardly be expected that we should refrain from treatment in the face of the manifold disturbances and dangerous complications prone to or urgently calling for interference. Lebert, from experience, was impressed with the belief that it is more protracted and attended with graver complications, when left to itself than when subjected to treatment.

Bleeding, refrigerent salines, mercurial and antimonial preparations belong to the past; the medication having varied with the present theories concerning its pathology. No medicine or medication can, or has ever stopped an attack of the disease. To arrest or abridge the duration of the attack and to prevent the cardiac complications are the important objects of medication. Lemon juice originally recommended by Dalrymple and Owen Rees, of London, and methodically tried by Lebert, was administered in the beginning, with 4 ounces per day; increasing the daily allowance by one ounce each day, during the first few days until 6 ounces had been reached. This being given a tablespoonful every two hours in half a glass of sugared water was found to mitigate the fever and shorten its average duration, but did not lessen the complications. It does good in mild cases but cannot be relied upon in severe attacks.

For the past twenty years the alkaline treatment has been used in this country and England upon theoritical grounds, in order to antagonize the abnormal production of acid supposed to go on during rheum-arthritis. If promptly and efficiently

employed, it shortens the duration and very considerably lessens the liability to pericarditis and endocarditis. To be effective the alkaline remedy should be given in full doses, at short intervals, until alkalinity of the urine is produced. On the subsidence of the active symptoms, two grains of quinine may be added with advantage to each dose. The alkaline must be gradually discontinued, but the quinia continued.

One or two drachms of the bi-carbonate of soda or potassa, repeated every four hours, will render the urine alkaline in from twelve to twenty-four hours. These doses are generally well tolerated by the stomach, if given during efferverscence, with citric acid or lemon juice. After alkalinity of the urine is produced, the doses may be much diminished, but they should be sufficient to keep the urine alkaline. The good results of the alkaline treatment are not obtained unless it be pursued in this efficient way. Small or moderate doses are of no use. The prevention of heart complications no doubt depends on the arrest of the disease by medication which shortens the attack. (Prof. A Flint.)

Senator says that since alkalies must be given in large doses, we should choose sodic salts in preference to the corresponding potassium or ammonium compounds.

The former base is, in itself, indifferent; and the latter may do harm to the heart and nerve centres.

In giving the bi-carbonate of soda we may induce purgation or diarrhœa, but this, if necessary, may be controlled by lessening the dose, and may be always prevented by adding a few drops of laudanum to it. The remedial effect might be attained more speedily by employing Gerrhardt's inhalations of carbonate of soda, which has been employed with excellent effect in recent endocarditis.

In connection with alkalies, might be mentioned blisters, which are advocated by Legroux, Dechilly, and above all, by Davies, and which have the power of shortening the course of rheumatic-arthriis, by eliminating the materies morbi, and altering the condition of the blood from acid to alkaline. To produce this effect they must be applied over all the affected joints.

Experience, if not science, has decided conclusively in their favor. (Stillé.)

Salicin has been recommended by Dr. Maclagan in 1876. Given in doses from fifteen to thirty grains, repeated every two or three hours, it sometimes proves an abortive remedy, and in the majority of cases, in twenty-four or forty-eight hours, the general symptoms are notably diminished if not arrested. After cessation of pain and fever it should be continued in small doses for a week. A renewal of the symptoms should be met by full doses of the same remedy.

Salicylic acid or the salicilate of soda have proved as successful as the salicin. They are more apt to cause gastric disturbance, and to occasion considerable diaphoresis. Professor Stillé and others, however, accuse it of producing disorders and even grave accidents, in almost all the functions of the economy and in some cases producing ringing in the ears, or deafness, or a rapid pulse, or an excessively high temperature, panting respiration, albuminuria, delirium and imminent collapse, and that in one published case this anti-pyretic did not lower, but on the contrary, seemed acutually to raise the temperature so high, that immediately after death it stood at 111° F. However true the above, yet it does not entirely comport with my experience in more than twenty-five cases. "It may be given in simple doses, repeated every two, three or four hours, according to the intensity of the disease and local symptoms, and should be continued until arrest or notable improvement has taken place. (Prof. Flint.)

Quinia in full doses is a useful remedy in this disease.

Opiates are invaluable as palliatives—trymethylamine or its isomer; propylamine has also its advocates. Recently, Coze, of Strasburg, and especially Dujardin Beaumetz, have found it, after extensive series of observations, as capable of quickly controlling the pain and fever, and subsequently removing the articular swelling also, and found the secretion of urea lessened during its administration.

Colchicum, whilst being laid aside by some, is regarded by others as the specific and infallible anti-rheumatic, and even employ it as means of determining whether a particular disease

be rheumatic or not. It is not decided whether it be curative in purgative doses, or whether its irritant effects on the bowels should not be avoided either in acute or chronic cases.

Colchicine. Skoda holds the highest opinion of its beneficial influence upon the inflammatory changes in the joints. He prescribes one grain of colchicine in from two to three drachms of water, with a few drops of rectified spirits to assist in dissolving it, giving five drops of this solution once to twice or three times a day, until (usually in two or three days) active purging sets in and the pains abate.

Local measures of treatment are indicated to relieve pain and tenderness referred to the affected joints; alkaline lotions with laudanum, the chloroform liniment, or lead and opium wash, and the tincture of aconite—each affords more or less relief. It is usual to surround the joints with cotton batting, to protect them from friction of the bed clothes and jarring movements. Extension of the limbs by pulleys and weights relieve by separating the articular surfaces. Rendering the limbs immovable by splints or by bandages and plaster of Paris, may sometimes be resorted to. German writers, Stromeyer, Esmarch, Senator, recommend cold applications by means of wet compresses, and even of ice. With the ideas of Metastasis, says Prof. Flint, which formerly pervaded pathology, refrigerant applications would have been deemed hazardous, but experience shows that no harm follows this method of palliation. The wet pack applied to the affected joints may be tried as a means of relieving pain, a hypodermic injection with a filled Pravas syringe, of one per cent. watery solution, are at once safe and convenient. Senator says that he was struck with the rapid way in which it relieved pain; the limb should be well covered, afterwards. A temperature of 105° and over, calls for an antipyretic treatment. If not diminished by salicins and salicylic acid, quinia should be given and the temperature reduced by cold sponging or the wet sheet, the latter measure repeated as often as the temperature rises. When in connection with hyperexia, the symptoms referable to the circulation denote asthenia or collapse, alcoholic stimulants should be given freely. (Flint.)

The sweating may be controlled by small doses of atropine, from one sixtieth to one thirtieth of a grain. (Stillé.)

During the febrile stage of acute rheum-arthritis, the diet should consist mainly of farinaceous and mucilaginous preparations, with lemonade and carbonic acid water as a drink. Otherwise, the diet should consist of beef tea, or broth with bread and milk, and no solid food should be allowed.

J. H. WIENDAHL.

## History of the Yellow Fever Epidemic of 1878 in Canton, Mississippi.

By A. T. SEMMES, M.D.

On the railroad, two hundred miles north of New Orleans, is situated the busy little town of Canton, counting with its suburbs about thirty-five hundred inhabitants.

Situated about two hundred and fifty feet above the sea level, and built upon a flat table land ridge between the Pearl and Big Black rivers, in central Mississippi, it suffers every summer and autumn with the various malarial diseases of the Mississippi Valley.

On the south and west, distant from the centre of the town about one mile and a half, a muddy bayou struggles sluggishly through its many windings, overflowing extensively with every heavy rain-fall, and drying up in stagnant pools during the summer drought.

Through the bottom portion of the town a smaller ravine runs, spreading out over its flat vale with each heavy shower, and, upon receding, leaving many small lagoons to slowly evaporate by the summer heat.

Only once before, in the year eighteen hundred and fifty-five, was Canton affected with an epidemic of yellow fever, though several times in the interval persons sick with the fever have come from infected places, and died here without spreading the disease.

As early as June of eighteen hundred and seventy-eight, the unusual heat had begun to produce, much sooner than common, serious spells of remittent fever, and as the month of July came, filling each successive day with a heavier roll call for aid, the physicians in the surrounding country, suspicious of yellow fever, began to excite the fears of all who had any recollection of 1855.

Noticing closely day by day, the features of our bilious fever patients, showing a constantly increasing shading off into many symptoms of yellow fever cases; I expressed my honest belief that, without some marked improvement in our climatic conditions, we would certainly drift into a visitation of the dreaded scourge. Still, as many others besides myself were fully satisfied of the perfect insufficiency of such quarantines as we could enforce, no measures for quarantining were started till the 1st or second of August, when already the deadly enemy was among us.

On the 20th of July I attended a young man, who had no communication with any person or goods of any sort by which he could be infected; still his case had every feature and symptom of the cases of yellow fever which I had nursed in the epidemics of 1853 in Louisiana and in 1855 in this place. With regard to this case, though I feel satisfied myself of its real character, I wish to state that he left Canton on the 20th of August and remained in the country eight days. In the first week of November, he returned to Canton, to a house in which there had been thirteen severe cases of fever, and there aided for fourteen days in nursing two of the severest cases of the whole epidemic. At the end of the fourteen days he was attacked with the fever, being quite sick for three days, but not nearly as sick or weakened as in his original attack.

I mention these facts so minutely for the reason that many will contend that his having the fever in November, proves that he did not have it in July. I have known some such second attacks, and so do all writers mention similar cases.

In the last week of July, a telegraph operator, who had but recently left New Orleans, had the fever in a private residence in the extreme northwest portion of the town, infecting no

one, as at least seven or eight weeks elapsed before the disease reached that part of city. On the 2d of August, a railroad engineer, who occasionally passed an hour or two in the office of the above mentioned operator, had the fever in a railroad boarding house; but no infection seemed to affect anyone else among the boarders, as it was at least six weeks or more before the disease reached this locality.

On the 1st or 2d of August there came to Canton, from New Orleans, a school teacher with the yellow fever on him, and was nursed by a family next neighbors to the above mentioned engineer, but none of the family were infected.

On the 1st and 2d of August, a family reached Canton from New Orleans, being received into the house of quite a large family. In a few days the children of the New Orleans family were slightly sick and excited the suspicions of one of our physicians, who visited them. In the next few days, following four more of this combined New Orleans and Canton family were very slightly sick, but were treated without a physician, by the host, with calomel and quinine, and were up and attending to their duties in thirty-six to forty hours. The other four or five members of the family were not sick at all.

On the 8th of August (in the yard of what is known, in the Canton History of the Epidemic of 1878, as the Henry House), an old negro woman was taken very ill with what afterwards proved to be of the same nature as all of the succeeding malignant fever cases of this portion of the town.

This *Heury* House is on the same street with the residence of the above mentioned combined New Orleans and Canton family, with a space of about two hundred feet between them.

The old negress had not been out of her own premises, nor held any communication with the neighbors.

On the 10th or 11th August, a little white child in this Henry House was taken violently ill, and in one or two days her father, Dr. McKin, was prostrated, then in rapid succession one after another of this Henry House family sickened, with the exception of two white members who went through the entire epidemic without being infected.

In the rear of this Henry House had been festering, all the

summer, a very filthy lagoon, filling the neighborhood every evening with a horrid stench. Also under this house was an old disused cellar filled with stagnant water. From about the 14th or 15th August, all the families of this portion of Canton to the windward of this lagoon were, in quick succession, stricken down with the yellow plague, while all the families in the opposite direction from this pool were more slowly and much more mildly taken.

I have been thus explicit in stating facts and points in regard to the Henry House, as some physicians, who are certainly as competent as myself to judge, but who were neither here during the epidemic, and who were not here after its subsidence, long enough to work out all facts and previous cases, have positively decided that our epidemic of 1878 was due entirely to the importation from New Orleans of the fever, by the New Orleans family whom I have mentioned above, as refugees, in the residence adjoining this Henry House.

In opposition to this opinion, I shall now return to the first week of August. On the 2d of August and the 4th and 5th, up to the 7th of August, I treated a family in a part of the town, remote from this Henry House, one after the other of its members becoming very sick with what I regarded at first as very refractory malarial fever, till the fourth case (a young man, Worhner) gave me satisfactory evidences of yellow fever. After his case the remaining members of the family, in the course of twelve or fourteen days, though they had removed from the town, had yellow fever mildly.

Unaided by any microscopic observations of the blood or secretions of my patients, and over-worked both day and night to such an extent as to prevent me making regular periodic notes upon the pulse and temperature, I hesitate somewhat to give a positive diagnosis of a good many cases which could not be traced to an imported origin. However, in truth I shall state that if hundreds of other cases were yellow fever, as so pronounced by experts, then these cases of mine were yellow fever of local origin, or else all the past history of yellow fever is rendered more than doubtful.

If nothing short of inspection, by post mortem examination

and demonstration with the microscope, afford the only infallible means of diagnosing pernicious malarial fever from yellow fever, then the overtasked practitioner of medicine, in a sweeping, devouring plague, as we had here in 1878, is not competent to decide disputed points of the nature and features of yellow fever, which for fifty years have puzzled the minds of hundreds of able and experienced experimentists. Guided by the teachings of a Stone, a Dowler, a Cartwright and a score of New Orleans ablest physicians I had for twenty-five years, considered yellow fever as needing no importation to give it a starting point.

Neither could I believe, from my teaching and my experience in 1853 and 1855, that contagiousness was one of its properties.

The facts that have presented themselves to me in the epidemic of 1878 at Canton, as well as some cases I have treated here during other years (notably 1871) forces me to express my opinion of yellow fever being indigenous to all the lower Mississippi Valley when we have the climatic conditions of 1878.

With regard to contagion, our epidemic of 1878 has completely confounded my former opinion.

The disease was unmistakably contagious here, and from the accounts I have read of other afflicted places, contagion seemed one of the most prominent features. In fact so plainly shown in many instances was this sure and rapid communication of the disease by any one from the infected town visiting, even for a few hours, a family in the country, that we must admit either the theory of contagion, or that many isolated farm houses throughout the State were infected without direct importation.

In 1855 this contagious feature was certainly disproved by scores of sick cases being removed from the town out to crowded residences in the country, and there dying with black vomit, without a single instance of communicating the disease. One other marked difference in the epidemic of 1878 from that of 1855, was the apparent malarial type of the fever last year which was not known in that of 1855. I am aware that some able observers deny the possibility of the coalescing of yellow fever with malarial fever, but until future development of post mor-

tem examinations and microscopic ivestigation prove the opinion totally untenable I shall be compelled to adhere to the idea that the pernicious malarial fever or hæmorrhagic malarial fever, and hæmaturic fever, are really and truly an indigenous form or type of yellow fever.

One fact I can certainly state with regard to our Canton epidemic of 1878, namely: that the free use of calomel, podophyllin and quinine, in almost every single case which came under my notice, produced a decided amelioration in eighteen hours of all the symptoms; with an undoubted remission in more than a majority of those cases even that proved themselves to be of the yellow fever nature by the albuminous urine, by distinct black vomit and by the odor and jaundiced color.

Also must I state that the above treatment gave to the physicians, who adopted it, the satisfaction of footing up an honorable and laudable balance sheet of cases and deaths; while those who did not use this medication were very unsuccessful in the management of the disease.

This brings me to the point of prophylactics upon which I can say very little as the idea of warding off an attack by previous medication, was generally discountenanced.

Two individuals under my constant notice labored day and night in the most infected houses, and over the beds of the worst cases for six or seven weeks before taking the fever, and even then very mildly. These two persons used daily eighteen or twenty grains of quinine.

Neither age nor sex, in white or black, seemed to make a different degree of susceptibility to the disease, but those of any age or color who had been subjects of remittent fever were more quickly infected, though not more violently affected than others in good health.

The occupation of the person, as far as my limited observations went, made no difference in liability to take the fever, nor did the condition of life as regards poverty or affluence.

A sudden fall in the thermometer about the fifteenth day of September made a considerable increase in numbers of new cases and number of deaths.

Taking a radius of one mile to cover the area of the entire

town of Canton with its suburbs, we include a population, before the epidemic, of about thirty-five hundred. About twelve hundred of these remained during the prevalence of the fever; giving a total of yellow fever cases of nine hundred and fifty, and of deaths from yellow fever of one hundred and fifty.

The epidemic visited every portion of the above area, diminishing gradually in violence, and giving us only five or six cases during the week, between the 7th and 15th of November, after which time there was only one case, of a refugee, who, in six or seven days after returning to Canton, took the fever on the 6th day of December.

Up to August 1st, when already the disease was in our midst, no sanitary measures of any sort were adopted, looking towards prevention; but a good deal of street work (such as trenching along the sidewalks, cutting down weeds, etc.), had been going on for several weeks, notwithstanding protests had been made against it.

After August 1st, a very free use of crude carbolic acid and of lime was had recourse to as disinfectants, both having been sprinkled over the public streets and private yards, and liberally used in most of the houses.

Their use did not seem to place the least check upon the progress of the fever, but I am not aware of any injury it caused the sick.

## Report of the Committee

APPOINTED BY THE NEW ORLEANS MEDICAL AND SURGICAL ASSOCIATION, OCT. 25TH, 1879, ON THE FOLLOWING SUBJECTS, SUBMITTED BY THE EXECUTIVE COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, TO BE READ AND DISCUSSED AT THEIR MEETING AT NASHVILLE, TENN., NOV. 18TH, 1879.

### PROPOSITIONS.

1. How to deal with a city in the yellow-fever zone in order to prevent the appearance of a first case.
2. How to prevent the importation of a first case.

3. How to deal with a first case and early cases generally when, in spite of precautions under first and second headings, it has made its appearance.

4. The duty of local boards of health, or other health authorities, to report such cases promptly, even though there may be some doubt as to the diagnosis. Whether the knowledge that such reports would be faithfully made would not have a tendency to allay apprehensions and give confidence to other communities while warning them of the importance of making preparations for contingencies.

5. Under what circumstances may it become necessary or expedient to remove the unacclimated portion of the population from an infected place? How may this be effected for the poorer classes of the population, and how should the people thus removed be cared for and supported?

6. Measures for isolating a dangerously infected place.

7. Organizations for the relief and treatment of the sick in an infected city.

8. Measures for preventing the spread of the disease from an infected place by railroads, including the management of transfer stations.

9. Inspection of steamboats at an infected place and at intermediate stations between the port of departure and their final destination. Should stations of observation be established by the National Board of Health? If so, what should be their relations to the health authorities of the States within whose territorial limits they may be established.

10. Results of the co-operation and aid given by the National Board of Health to State and municipal boards under the provisions of the act approved June 2, 1879. What suggestions may be made to render this system more efficient?

1. How to deal with a city in the yellow-fever zone in order to prevent the appearance of a first case.

ANSWER.—Put such city in the best possible hygienic conditions.

*a.*—DRAINAGE. Proper elevation and grading of the surface of the soil. All surface-gutters to be provided with sides and bottoms of masonry or chemically prepared wood, to facilitate flushing. All yards to be graded so as to drain into the gutters. All streets to be properly graded and paved. Banquettes carefully constructed. All privy vaults, where existing, should be required to be so remodelled as to avoid all possibility of siepage. In the construction of *new privies*, every care should be taken to remedy the defects of the present system.

*b.* We would suggest, as applicable to most houses already built, such practical alterations as would improve their general sanitary condition; i. e., elevation of the lots upon which they stand to avoid all stagnant water, and such alterations as are deemed necessary to improve their ventilation.

In building *new houses*, there should be an ordinance enacted and rigidly enforced by the proper authorities, requiring a specific elevation of the *whole lot* to be built upon, above the level of the street—such ordinance to be complied with before the foundations are allowed to be commenced.

We would suggest *thirty inches* as the minimum elevation for the floor above the surface of the lot.

No tenement houses to be allowed, as in our opinion they are always calculated to favor accumulations of filth, and thereby the production of disease.

Sufficient light and proper ventilation are essentials to health, also an abundant supply of *pure* water.

Where cisterns are used, the greatest care in their construction and management is necessary.

All accumulations of garbage or filth to be specially prevented.

Extensive excavations or disturbances of soil to be forbidden from May to November.

The thorough police of the city by trustworthy and competent sanitary inspectors.

2. How to prevent the importation of a first case.

Answer.—By a rational quarantine under the direction and management of physicians of undoubted capacity and recognized integrity.

Require all vessels, at all seasons of the year, to be subjected to careful *inspection* by the quarantine physician and to be subjected to such detention as he may deem necessary for efficient cleansing or disinfection. Establish a quarantine hospital for the treatment of infectious or contagious diseases arriving at quarantine—and we would advise that suitable facilities be provided for the unloading of cargoes and their proper disinfection when judged necessary.

3. How to deal with a first case and early cases generally when, in spite of precautions under first and second headings, it has made its appearance.

ANSWER.—Every means should be adopted to insure the earliest information to the health authorities regarding such case or cases.

Isolate, as far as practicable, the locality where such cases have occurred, and delegate to the proper authorities sufficient power for a thorough and repeated disinfection of such locality. All clothing and bedding of patients should be thoroughly disinfected by heat, or destroyed. In case of death, immediate *private* burial to be insisted upon.

4. The duty of local boards of health, or other health authorities to report such cases promptly, even though there may be some doubt as to the diagnosis. Whether the knowledge that such reports would be faithfully made, would not have the tendency to allay apprehensions and give confidence to other communities, while warning them of the importance of making preparations for contingencies.

ANSWER.—All suspicious cases should be at once reported to the proper health authorities, whose duty it should be to investigate such cases and report them without delay to all other interested communities. We believe this to be the only course to pursue to gain confidence and allay useless apprehension.

5. Under what circumstances may it become necessary or expedient to remove the unacclimated portion of the population, from an infected place? How may this be effected by the poorer classes of the population, and how should the people thus removed be cared for and supported?

ANSWER.—We do not believe that yellow fever is *contagious*, communicated from body to body—but that the cause, whatever it may be, spreads through the atmosphere, and that a certain amount of the poison in this medium is necessary for its manifestation. That its spread is not by diffusion, otherwise it would grow less and less in intensity; but, that it is capable of multiplying in some way, as yet unknown to us, thereby increasing the intensity of its infection. That this

atmospheric infection-tendency while greatly due to, is not wholly dependent upon heat and moisture, but that the presence of decomposing organic material and the gases arising therefrom enter largely as a factor, if not in its production, at least in its spread; and that cleanliness of person and surroundings will go far towards preventing its spread, if not securing its entire eradication.

The removal of the unacclimated from the place of infection is a measure of wisdom, and would save many lives. The presence of the disease and its disposition to spread, as manifested in the successive attacks of several members of the same household or adjoining households, should be the signal for a general removal of the unacclimated; for the rapidity of its spread, is evidence of its intensity.

The details of measures for the removal of the poor will be suggested and controlled by the circumstances of location and surroundings. The governments, national, State, or municipal, or all three, aided by private contributions, should furnish means for their care.

6. Measures for isolating a dangerously infected place.

ANSWER.—When the disease has progressed to such an extent as to render a place *dangerously infected*, within the meaning of the term as employed by the National Board of Health, we would recommend the removal of all persons liable to infection and regulate intercourse so as by all possible means to prevent the ingress of unacclimated persons.

7. Organizations for the relief and treatment of the sick in an infected city.

ANSWER.—Each infected district should have its own hospital centrally located, of sufficient capacity to meet all wants, and presided over by a staff of medical men of standing and reputation in their profession and community. Each hospital should have its ambulances easy and comfortable, and every patient dependent on charity for its support and medical treatment, if discovered within the first *twelve* hours after the invasion, should be removed to said district hospital. The hospital staff should have entire control of the district, and such patients as have been sick for twelve or more hours should be

treated at their place of residence by this staff, and their necessities should be relieved from the hospital upon the order of the attending physician.

8. Measures for preventing the spread of the disease from an infected place by railroads, including the management of transfer stations.

ANSWER.—We recommend the adoption of such measures by the National Board of Health as shall secure, during the prevalence of an epidemic, the abolition on railroad cars of all upholstered articles of furniture, rugs, carpets and such other material not washable, as well as all other material capable of conveying infection, and the substitution therefor of mattresses, chairs, seats, etc., made of wire, cane, wood or other open material. That the cars, especially sleeping cars if used, be open to free ventilation, as there can be no better purifier than the current of air which passes through cars when in rapid motion. Also, that all articles of bedding be thoroughly washed in boiling water after leaving point of departure.

Transfer stations should be under the supervision of competent medical officers, subject to the rules and regulations of the National Board of Health.

9. Inspection of steamboats at an infected place and at intermediate stations between their port of departure and their final destination. Should stations of observation be established by the National Board of Health? If so, what should be their relations to the health authorities of the States within whose territorial limits they may be established?

ANSWER.—As relates to inspection of steamboats, we recommend the same regulations in regard to furniture as already mentioned for railroad cars, and the faithful execution of the following rules as already adopted by the National Board, and put into use last summer at New Orleans, to-wit:

"Any decayed wood in the deck or floors should be looked for and required to be replaced by sound wood forthwith, or be left without covering of any kind and be required to be saturated daily with a boiling hot solution of copperas—one quart of copperas to the pailful of boiling water. All kitchen, pantry

or other decks or floors subject to frequent wettings and dampness, should receive a last washing daily from hot copperas water. All storerooms or closets should be looked into and the stowing away of damp or soiled clothing therein prohibited. Water closets and urinals should be scrupulously clean and odorless.

"The hold and keelson of all steamboats and other vessels should be examined with special care, and whenever any bilge water or offensive odor is present, cleansing should be required by pouring in and pumping out water, by use of the syphon pipes for carrying steam at as high a heat as possible, under the dunnage, and by the use of copperas until all foul odor is removed. Merely damp holds and keelsons should be sprinkled with copperas to prevent mustiness."

Stations of observation should be established by the National Board of Health, at certain intervals along routes to be provided for by the regulation of the Board, and should be provided with ample and comfortable accommodations for taking care of such sick as it may be deemed necessary to remove from cars or steamboats. Said stations should be governed by the rules and regulations of the National Board of Health.

In connection with the management of railroads, we would call attention to the fact that a convention of railroad managers has been called to meet at Nashville, Tenn., on November 19th. We heartily endorse this movement and are convinced that it will be productive of much good.

"The object of this meeting," to quote from their circular, "is to secure uniform rules and regulations that will give the greatest protection by affording reliable means to arrest the spread of infectious or contagious diseases, while at the same time providing for the movements of freights and passengers with the least inconvenience compatible with safety to the public health."

10. Result of the co-operation and aid given by the National Board of Health to State and municipal boards under the provisions of the Act approved June 2, 1879. What suggestions may be made to render this system more efficient?

ANSWER.—In the consideration of this subject, your committee do not esteem it incumbent upon it to speak for distant communities, and therefore will restrict its observations to the State of Louisiana and mainly to the city of New Orleans. The subject is naturally divisible into two sections, and the results of the co-operation and aid furnished by the National Board of Health will first receive attention.

Its co-operation has been carried out chiefly through its medical inspectors and sanitary officers. In localities where yellow fever has been an unfamiliar visitor, they have aided in distinguishing real from supposed cases, have greatly contributed by their advice to prevent panic, and in case of actual presence of the disease, have directed suitable means for its repression. Having been selected with reference to their fitness for the service these officers have also acted as inspectors on railroad trains and steamboats, and have superintended the movement of merchandise, and of travellers and their baggage, and there is reason to hope that the failure of yellow fever to spread from New Orleans and Memphis in 1879 may be due to their well directed efforts. This view is fortified by the fact of its somewhat extended spread from the Morgan city focus, where the above system of co-operation was long delayed by the late discovery of the outbreak. It may safely be affirmed, that Mississippi city is the only place which has received yellow fever infection from New Orleans in 1879, and in this locality the rules of the National Board of Health were not enforced, owing to the doubts in the first cases.

Another important result, which is perhaps attributable to the co-operation of the National Board of Health, has been the establishment of confidence among threatened communities in the measures adopted for their protection by that Board, and by State and local Boards of Health, the general compliance with the rules of the National Board of Health by local health authorities, and the moderation of inland qurrantine restrictions to such an extent that its inconveniences have not amounted to serious hardships, such as occurred last year. Besides this, the thorough system of inspection and disinfection of vessels

by the National Board of Health, meeting as it did the hearty approval of those interested in steamboats and shipping interests, materially assisted commerce by sooner opening ports closed against us. Another result has been the continuance of the work inaugurated by the Marine Hospital Service, of gathering and disseminating intelligence of the appearance and progress of infectious diseases, in addition to which circulars have been issued, giving instructions in detail for performing works of a sanitary character, and forms for carrying out the inspection of persons, merchandise, and their carriers on routes of travel. There can be no doubt that the bulletin and circulars issued by the National Board of Health have greatly contributed to a general awakening to the importance of the subject of public hygiene, and that trustworthy intelligence has tended to remove apprehension, and obviate interruption of intercourse. It is desirable that the Board should largely extend its system of health reports from foreign ports, so that our maritime quarantine restrictions may hereafter be removed or relaxed against localities of whose health we are still mainly in ignorance. The pecuniary aid from the National Board to State and Municipal Boards has been employed in works of local sanitation where means were wanting to the local authorities, and this has amounted in New Orleans to a little more than $3,800, and elsewhere in Louisiana to about $2,000 more. It would be difficult to estimate the immediate results of this sanitary work, for the effect of disinfecting agents upon the progress of yellow fever is still an open question. The work of cleansing however, has had a good moral effect both by inspiring confidence and by the force of a good example. With reference to the second head of the subject, your committee find so good ground for satisfaction in the working of the National Board of Health—in other words, they find its success so much greater than they had reason to hope, that they would not undertake to suggest any changes of magnitude in its functions or *powers*. It was supposed by many that the usefulness of the National Board of Health would be proportional to its powers, but the result seems not to have justified that opinion. The character and

reputation of the men selected for this responsible position, together with the acknowledged wisdom of the plans and regulations framed by them, speedily won the public confidence, especially in the regions visited by the epidemic of 1878. Their regulations have been generally adopted throughout the States east of Texas, and the moral influence of the National Board, there is good reason to believe, has been more effectual than any authority which could have been conferred by the Federal government. Having confidence that the Board will hereafter rectify whatever defects of administration the operations of the first year have brought to their attention, we deem it unnecessary to make any specific suggestions.

Respectfully submitted,

D. C. HOLLIDAY, M.D.
J. P. DAVIDSON, M.D.
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Representing New Orleans Medical and Surgical Association.

## Yellow Fever in New Orleans During the Year 1879.

By JOSEPH HOLT, M.D., New Orleans, La., November 22, 1879.

[Concluded from September Number.]

*Mr. President and Gentlemen of the New Orleans Medical and Surgical Association:*

At a meeting held August 2d, of the current year, I presented to you a paper entitled "The Chain of Circumstances Connected with the Appearance of Yellow Fever in New Orleans during the year 1879."

This was done with the special object of putting on record at the earliest possible moment, every fact and detail connected with the first cases, suspicious or assured. For it is undoubtedly a fact that neglect in regard to the proper recording at the moment of occurrence of these first cases, has given rise to the discrepancies of opinion, to the fruitless arguments and

fierce contentions which have singularly characterized the investigation of the origin of yellow fever, as to whether indigenous or imported, and as to the probable causes of its appearance.

Weeks and sometimes months elapse between the time of the occurrence of these cases and the first effort in the taking of evidence.

It is safe to declare that no physician can accurately remember at the end of a season, particularly of an epidemic, those facts appertaining to each case, which are absolutely essential in a scientific recording of the outbreak of yellow fever; and yet this is by far the most important information connected with an investigation of the disease.

When men draw upon their memories for their statement of facts, such evidence ceases to be of the slightest value in science.

There could hardly be instanced a more forcible illustration of the truth of this assertion than that afforded in the memorable labors of the Congressional Yellow Fever Investigating Committee, visiting this city last winter.

Having presented to you a detailed account of eighteen cases associated with the inception of yellow fever, by request, I will now complete the record of all the cases which have appeared in this city during the year 1879.

It will be remembered that of the eighteen, the first seven occurred in the family of Mr. Stout, No. 184 Third street, between Constance and Magazine streets, Fourth Municipal District, and of these cases, one was taken ill June 16th.

The eighth was the case of their servant, Louisa Creel, who having nursed the sick in this family, was herself seized on the day of her arrival at her mother's house, near Mississippi City, and died on the fourth day of her illness, July 10th.

Cases 9, 10, 11, 12 and 13 followed in quick succession—all in the Creel family. Case 14 was that of the boy Heyward, a near neighbor of the Creels. The few remaining cases occurred in this city in the immediate neighborhood of the Stout family, and were clearly recognized as yellow fever and were so recorded as cases 2, 3, 5 and 6, in the office of the Board of Health.

Case 1, as recorded by the Board, was that of Jacob Iken, coxswain of the steamship Baltimore, aged 29 years, native of Hanover; was taken ill March 26, during the evening.

The steamship Baltimore arrived at Quarantine Station, Mississippi River, on the 25th day of March, from Rio de Janeiro.

The quarantine physician caused the port holes to be opened and the steamer to be disinfected and fumigated. The steamer remained at the quarantine station until the morning of the 27th, when she left the station for New Orleans.

On the evening of the 26th, after returning, the patient was seized with a chill, severe back and head ache, but got up on the morning of the 27th and attempted to work. He was compelled to retire at 9 A. M.

The steamer arrived at the head of Gaiennie street where she was laid to wharf on the afternoon of March 27th. The patient was taken to the Touro Infirmary at 4, P. M., when he was attended by Dr. F. Loeber. Recovered.

Case 4, Louis Aufret, age 5 years, white, native of France, residence 105 Bourbon street, second district; was brought ill from Morgan City, where he fell sick July 25th. He was attended by Dr. E. Murphy; case clearly marked as one of yellow fever. Died August 1st.

Case 7, Frank Ticknor, age 22 years, native of New Orleans, white, residence 470 Poydras street, rear of the first district; was taken ill July 25th, about 9 P. M., with chill, intense headache and pain in all his limbs. He was attended by Dr. J. D. Hunter, and was seen by Drs. Bemiss and Joseph Holt.

The case was one of peculiar severity and protracted. Excepting black vomit he presented every symptom peculiar to the severest case of yellow fever. Recovered.

It is interesting to state that not only was he a native, but had been repeatedly exposed to epidemics of yellow fever without being affected.

According to his own statement he drove his float along Magazine street about the time of the occurrence of the recognized case, and some two weeks before his own illness The probabilities seem to be that his was an independent and original case of the disease.

Case 8, M. Mahoney, age 9 years, white, native of New Orleans, residence 590 Annunciation street, in the vicinity of the Stout cases; was taken ill July 29th and attended by Dr. R. J. Mainegra. Recovered.

Case 9, Mrs. J. R. Howell, age 35 years, white, native of Massachusetts, residence No. 119 Washington street, in the infected locality; attended by Dr. C. B. White. Taken ill July 30th. Recovered.

Case 10, Charles Howell, age 4 years, native of New Orleans, son of case 9; was taken ill July 30th, Dr. White attending. Recovered. He and his mother absent from the city in 1878.

Case 11, Rufus Hireman, age 27 years, white, native of Ohio, residence 233 Dumaine street, second district; has spent 4 years in this city but absent during the year of 1878. Was taken ill August 12th, attended by Dr. C. B. White. Recovered.

Case 12, Marie Dupuy, age 14 months, white, native of New Orleans, residence No. 477 Constance street—infected centre fourth district; was taken ill August 16th, Dr. R. A. Bayley attending. Died August 21st, having had black vomit and convulsions.

Case 13, Mrs. Anna M. Hood, the wife of General Hood, age 42 years, native of New Orleans, residence 220 Third street, about two squares from the family of Mrs. Stout; was taken ill August 22d, attended by Drs. Bickham and Logan. Died August 24th.

Case 14, Keefe, age 7 years, white, native of New Orleans, residence 602 Fulton street, infected locality; was taken ill August 24th, Dr. R. A. Bayley attending. Recovered.

Case 15, Ida Rodjiskey, age 18 years, white, native of New Orleans, residence 207 Third street, infected centre, Dr. Joseph Schmittle attending; was taken ill August 25th. Recovered.

Case 16, Lydia Hood, daughter of General Hood, age 10 years, native of New Orleans, but heretofore absent with her parents during the summer; residence same as case 13, Drs. S. M. Bemiss and J. P. Davidson attending; was taken ill August 26th. Died August 30th.

Case 17, General J. B. Hood, age 48 years, native of Virginia, residence same as case 13; was taken sick August 27th, Drs. S. M. Bemiss and J. P. Davidson attending. Died August 30th.

Case 18, George T. Cotton, age 4 years, white, native of New Orleans, residence 38 Fourth street, infected centre; was taken ill August 27th, Dr. R. J. Mainegra attending. Died September 1st.

Case 19, Alice Williamson, age 5 years, nativity not stated, white, residence No. 78 Washington street, infected district; was taken ill August 28th, Dr. R. J. Mainegra attending. Died August 31st.

Case 20, Ethel Hood, daughter of General Hood, age 9 years, native of New Orleans, but away during the summer, residence same as case 13; was taken ill August 29th, Drs. S. M. Bemiss and J. P. Davidson attending. Recovered.

It is important to state that during the illness of General Hood, his wife and two children, it was discovered upon a careful investigation made by his physicians and Dr. Wm. G. Austin, of the Board of Health, the mansion, although apparently complete and elegant in all of its appointments, was really in an unsanitary condition of the worst character, due to the existence of a closed and unventilated privy vault in the basement, under that part of the house occupied by the sick. There was also another vault under the same general roof, in a particularly foul condition.

Case 21, Fred Weicks, age 34 years, white, native of New Orleans, residence 891 Tchoupitoulas street, many squares removed from the infected locality; was taken ill August 29th, Dr. Mainegra attending. Recovered.

Case 22, Harry Shelton, aged 6 years, white, native of New Orleans, residence 746 Magazine street, infected centre; taken ill August 30th, Dr. Mainegra attending. Recovered.

Case 23, Eloise G. Walker, age 24 years, white, native of Mississippi, 12 years in New Orleans, residence 750 Magazine street, infected centre; taken ill September 1st, Dr. S. S. Wood attending. Recovered.

Case 24, Thomas Witter, age 10 years, white, native of New Orleans, residence 177 Laurel street, infected centre; taken ill August 26th, Dr. J. P. Lehde attending. Recovered.

Case 25, J. C. Matthews, age 45 years, nativity unknown, residence 192 Laurel street, near case 24; taken ill September 2d, Dr. R. A. Bayley attending. Died September 7th.

Case 26, Henry Waag, age 26 years, white, native of France, residence 100 Bourbon street, nearly opposite case 4; was taken ill September 3d. Died at the Charity Hospital September 6th; he came to New Orleans, from Houston, Texas, three months before his illness, was taken sick on the morning of Wednesday, September 3d, and removed to the hospital the following day.

Case 27, Louis Goldsmith, age 20 years, white, native of Germany; he arrived eighteen months ago from Europe, resided in Point Coupee parish of this State, one year, and in Morgan City during the past six months. He came to New Orleans from the latter place on the evening of September 11th. Was taken ill the following evening, and was admitted on the 13th, at 3 P. M., into the Touro Infirmary, Dr. F. Loeber, attending. Recovered. His case was one of peculiar severity.

Case 28, George Smith, age 6 years, white, native of New Orleans, residence Pacific Avenue, Fifth District; was taken ill September 13th, Dr. W. H. Riley, attending. Recovered. Next door, same tenement house, a man from Morgan City, died a short time before, from so-called hæmorrhagic malarial fever, having thrown up blood before death.

Case 29, Mrs. Walker, age 38 years, nativity unknown, white, residence Bartholomew street, Fifth District, arrived from Morgan City on the evening of September 10th. Was taken ill September 13th, Dr. W. H. Riley, attending. Died September 17th.

Case 30, Mrs. Ann Sorkhahn, age 31 years, native of Germany; was residing as a servant in the family of Mr. George Auer, the brewer, No. 540 Tchoupitoulas street, between Market and St. James, First District. She fell sick September

15th, and went immediately to the house of a relative, No. 1172 Magazine street, attended by Dr. S. Chandler. Died, having ejected black vomit September 21st.

Some light has been shed concerning the origin of this case and of case 36, which occurred subsequently on the adjoining rear premises, by the discovery that an unacclimated girl, Miss Mary Goodrich, aged 18 years, living in the same house as case 36, was seized late in the evening of September 8th, with fever, accompanied by intense pains in the limbs, back and head. She was confined to her bed ten days, and treated by her mother, who managed her case after the simple method of hot mustard foot baths, castor oil and rigid dieting.

According to the testimony of herself and mother, this young lady had not been off the premises for many weeks prior to her attack.

Case 31, Mary Croker, adult, age unknown, white, residence 187 Delord street, came from Morgan City on Wednesday, September 17th. Was taken ill September 20th, Dr. Thomas Layton, attending. Recovered.

Case 32, Miss Paulina Menge, age 15 years, white, nativity not stated, residence 300 Jackson street. Had never had yellow fever. Generally absent from New Orleans during the summer. Was taken ill September 22d, Dr. C. J. Bickham, attending. Died September 25th.

Case 33, Mrs. Muse, age about 30 years, white, nativity not stated, residence No. 163 Third street, between Constance and Laurel streets, infected centre. Was taken ill October 3d, Dr. C. J. Bickham, attending. Recovered.

Case 34, Lizzie Mazzoletti, age 6 years, native of New Orleans, white, residence corner of Franklin and St. Andrew streets ; was taken ill October 13th, Drs. Folwell and Watkins attending. Died October 18th.

Case 35, Capt. J. H. Menge, age 40 years, white, native of Mississippi, residence same as case 32; was taken ill October 15th, Dr. C. J. Bickham, attending. Recovered.

Case 36, Mrs. Marie Murray, age 35 years, native of France,

residence 16 Market street, near New Levee; was taken ill October 16th, Dr. A. Petit, attending. Died October 20th.

This patient lived on same square as case 30. Had lived in New Orleans five years. Said to have had yellow fever in 1878. On investigation, Dr. Ryan, who attended her, declares that he did not consider her case as really one of yellow fever.

Case 37, Rev. George Ernest Friedrichs, age 27 years, white, native of New York, residence No. 447½ Chippewa street, infected locality; was taken ill October 17th, Dr. Joseph Schmittle attending. Died October 23d. He had been in New Orleans six months.

Case 38, George Stumpf, age 19 years, white, native of Louisiana, residence Zempel street, Carrollton; was taken ill October 19th, Dr. Thomas Campbell attending. Died October 26th.

Case 39, John Cotton Haber, age 14 months, white, native of New Orleans, residence 573 Dryades street near Philip street; was taken ill October 20th, Dr. C. H. Tebault attending. Died October 23d.

Case 40, Caliate Villeré, age 21 years, white, native of Louisiana, residence 94 Polymnia street, First District; was taken ill October 20th, Dr. C. H. Tebault attending. Recovered.

Case 41, Charles Dogherty, age 5 years, white, native of Washington, D. C., residence 725 Dauphine street, Third District; was taken ill October 21st, Dr. C. H. Tebault attending. Recovered. Family removed from 390 Magazine street one week before the boy sickened. Had lived in New Orleans nearly five years.

This completes the record of cases as accounted for in the office of the Board of Health, and, no doubt, comprises all that have occurred.

The physicians of this city have been singularly mindful of their duty to the public, and have uniformly reported promptly their cases, suspicious or assured.

The analysis of this record may be rendered in the following summary:

| | | |
|---|---|---|
| Total number of cases, diagnosis perfected and recorded as yellow fever | White, 41. Colored, none | 41 |
| | Male, 22. Female, 19. | 41 |
| Total deaths | Male, 9. Female, 10. | 19 |
| Cases of children ten years of age and under | Male, 11. Female, 6. | 17 |
| Deaths of children ten years of age and under | Male, 4. Female, 4. | 8 |
| Cases of persons over ten years of age | Male, 12. Female, 12. | 24 |
| Deaths of persons over ten years of age | Male, 5. Female, 6. | 11 |
| Natives of New Orleans | 19. | 41 |
| Natives of State at large | 2. | |
| Persons from abroad | 20. | |

ORIGIN OF THE DISEASE.

The infected locality comprised an area of forty-five squares, bounded by First and Seventh, Tchoupitoulas and Chestnut (not including six squares of the south-west corner of this area), Fourth Municipal District.

The disease made its appearance about the centre of this area, showing itself unmistakably first in the case of Louisa Creel, who had been nursing the sick in the Stout family, and who sickened the same day of her leaving them. Her case gave rise to the series of cases near Mississippi City, as mentioned. The first recognized cases in this city, occurred in the immediate vicinity of the Stout family. Within the infected area there were twenty-four cases.

There is not the slightest evidence upon which could be founded a suspicion that the infection was brought into this area by importation of any kind; but on the contrary, the whole weight of testimony is in favor of the opinion that it was engendered spontaneously from local causes.

To say that it was the offspring of germs surviving from the epidemic of last year is mere quibbling, a figment of the imagination. It is a safe assumption, inasmuch as no one can demonstrate the contrary, any more than can one exhibit a germ.

It is pertinent, however, to ask where the germs came from which gave rise to the considerable epidemic of yellow fever which prevailed over the same area during the autumn of 1876? There had been no case in that locality for three or four years previous, and yet it appeared then among the children just as it has done this season, without importation.

Outside the infected area seventeen cases occurred, one imported by ship, and four from Morgan City, an infected place.

There is no authenticated instance of the disease having been communicated to any one by an imported case.

Besides the spontaneous occurrence of the infection in the area mentioned, it appeared in five separate and distinct parts of the city, widely remote from each other, as in cases 7, 470 Poydras street, in the rear of the First District; 30, 540 Tchoupitoulas street; 36, on same square, front of First District; 34, corner Franklin and St. Andrew streets, rear of Fourth District; 40, 94 Polymnia street, First District; 41, 725 Dauphine street, Third District.

The evidence in each of these cases justifies the belief that they were each original manifestations of the disease.

It may reasonably be asked: if the infection without importation can manifest itself at one point or in one locality; why not in five or any number of places?

Experience, however, has taught that our great epidemics have invaded the city from one or two areas of original infection, and have not sprung into existence from a multitude of primal foci.

According to our experience, the meteorological conditions were not suitable to the appearance and spread of yellow fever. The spring and summer were unusually cool. There was at no time a protracted spell of weather uncomfortably warm, but during each of the summer months there occurred many days of unseasonably low temperature. And finally, there never has been in the history of New Orleans such an awakening of the whole people to a sense of their danger and to an appreciation of the vital issues at stake, as was shown during the entire spring, summer and autumn, in the energetic and persevering effort to clean this city.

Not only those having public charge of health affairs, but the citizens in their homes displayed a most commendable zeal in their determination to effect domestic sanitation, and in their compliance with orders from the health officers.

The city authorities, the State Board of Health assisted by the National Board, and the Auxiliary Sanitary Association, concentrated their utmost efforts in the sanitation of the infected area, and indeed, accomplished the actual and complete cleansing of this part of the city.

The pestilence subsided coincidently with the thorough cleaning of this locality, but to what extent was it simply coincident or directly consequent, we are forbidden by the requirements of scientific enquiry to declare.

Of three things we are certainly assured: we know that perfect sanitation is the one great experiment yet to be tried in the solution of the yellow fever problem; that the disease has ceased to occur epidemically in certain cities, heretofore scourged, coincidently with an improved municipal sanitation, and, finally, that every city, town, or ship, in which the disease breaks out and spreads, is a city, town, or ship, in a *foul and most unsanitary* condition. And moreover, with all deference and becoming modesty, we challenge any man to cite, with corroborative evidence, one single instance to the contrary: that is, of yellow fever occurring *de novo*, and spreading in a community where there did not exist bad hygienic conditions due to the massing of human excrement and other filth in close proximity to habitations.

Their streets and premises or decks might look severely clean, but to the scrutinizing eye of a sanitarian, the place would be seen disgustingly filthy.

If ever we discover the talisman, whose charm shall save us from yellow fever, we will also discover upon it a few cabalistic characters, the spring of its magical potency. These, when arranged, will spell one word, "CLEANLINESS."

## Recent Progress in Dermatology.

By GEORGE H. ROHÉ, M. D., New Orleans.

### DERMATOLOGY IN AMERICA.

At the recent meeting of the American Dermatological Association, the president, Dr. Duhring, in his annual address, gave an interesting account of the rise and progress of dermatology in this country. The first work published in America on a dermatological subject was "A Brief Guide in the Smallpox and Measles," by Thomas Thatcher, 1677. This was probably the first medical work that appeared in this country. The first course of lectures on skin diseases was given by the late Dr. H. D. Bulkley, at the Broome Street (N. Y.) Infirmary for diseases of the skin. Dr. J. C. White, of Boston, delivered the first course of lectures on dermatology in Harvard University. Professorships of dermatology (didactic or clinical) now exist in the medical schools of most of the large cities of the United States, and are generally filled by competent men. In some instances, however, the occupants of these chairs leave much to be desired in the way of special qualification.

In 1870 Dr. M. H. Henry, of New York, began the publication of the "American Journal of Syphilography and Dermatology," which died, for lack of support, in 1874, with the close of the fifth volume. The publication of this journal exerted no little influence on the progress of this special study and with its establishment dates a new era in the study of dermatology. The Vienna school, represented in this country by White, Duhring, Wigglesworth, Bulkley and a number of others, began to exercise a healthy influence, and has at present almost succeeded in sweeping out of view the antiquated pathology and absurd etiological notions of the older English and French schools.

The suspension of the American Journal of Syphilography and Dermatology was speedily followed by the publication of the Archives of Dermatology, under the editorship of Dr. L. D. Bulkley. This valuable journal still appears regularly and gives promise of a long and prosperous existence. In its pages have appeared some of the most interesting clinical, as well as exceedingly valuable scientific papers upon the subjects within

the limits of this specialty. It is now the only journal of its class published in the English language.

In 1876, Dr. Duhring, above alluded to, began publishing an atlas of skin diseases, consisting of cases painted from life and reproduced by chromo-lithography, each case being accompanied by about two quarto pages of descriptive letter-press, containing a brief but comprehensive clinical history of the case illustrated. The sixth part of this atlas has been recently issued. The work is universally acknowledged to have no equal except the magnificent plates of Hebra, published in Vienna. In 1877, Dr. Duhring published "A Practical Treatise on the Diseases of the Skin," which is unquestionably the best English work on the subject of which it treats. Dr. H. G. Piffard, of New York, also published an elementary work on Dermatology in 1876. During the present year Dr. George Henry Fox has commenced to issue a series of photographic illustrations of skin diseases, which exhibits the various affections with marvelous fidelity to the originals. This record is an evidence of the earnestness and activity of American Dermatologists.

In 1869, was organized the New York Dermatological Society, and, in the Centennial year, the American Dermatological Association was formed at Philadelphia.

At the three annual meetings of this Association, a large number of interesting clinical papers were read, but it is desired here to call especial attention to the valuable scientific work performed by various members of the association. At the meeting in 1878, Dr. I. E. Atkinson of Baltimore, read a very elaborate paper on "the botanical relations of the trichophyton tonsurans" (the fungus found in ringworm). The paper was illustrated by drawings of microscopic preparations, showing the fungus in various stages of its growth and devolopment. The conclusions to be drawn from Dr. Atkinson's researches point to the very close relationship of the various so-called *species* of fungi, as claimed by Hallier, and more recently by Grawitz, of Berlin. Inasmuch, however, as clinical facts seem to justify different conclusions from those pointed out by Dr. Atkinson's careful researches, it will be well to await the results of further experiments. At the last meeting of the

Association, Dr. C. Heitzmann, of New York, gave an account of the results of his "microscopic studies on inflammation of the skin." The first part of the paper might just as well have been omitted, as it was merely an abstract of the historical summary of the doctrines of inflammation contained in Stricker's Lectures on General Pathology, with which most of the members of the Association might have been supposed to be familiar. The original part of Dr. Heitzman's paper however, was of great value, and the conclusions arrived at, so important as to justify their insertion here.

1. In epithelium the first step of the inflammatory process consists in an increase of the living matter, both in the protoplasmic bodies and between them; the former produces the coarse granulation of the epithelia, the latter the thickening of the so-called 'thorns' in the cement-substance. Any particle of living matter, both in the epithelia and between them, through continuous growth, may lead to a new formation of epithelial elements, with the termination in hyperplasia of epithelium (psoriasis, squamous eczema, horny formations, etc.).

2. In connective tissue the first manifestation of the inflammatory process is the dissolution of the basis-substance and reappearance of the protoplasmic condition. By this process and the new formation of medullary elements, which may start from any particle of living matter, the inflammatory infiltration is established. The sum total of the inflammatory elements, which remain united with one another by means of delicate off-shoots, represent an embryonal or medullary tissue. If the new formation of medullary elements be scanty, the resolution is accomplished by reformation of basis-substance (erythema, erysipelas, etc.). If, on the contrary, the production of medullary elements be profuse, a new formation of connective tissue will result, hyperplasia (scleroderma, elephantiasis).

3. The plastic (formative) inflammation may be accompanied by the accumulation of a larger amount of a serous or albuminous exudation in the epithelial layer (miliaria, sudamina, herpes), or in the connective tissue of the derma (urticaria). In both cases complete resolution will ensue.

4. Suppuration in the epithelial layer of the rete mucosum is produced by an accumulation of an albuminous or fibrinous exudation, by which a number of epithelia are destroyed, and by new formation of blood corpuscles from the living matter of the epithelial elements themselves. Epithelial suppuration heals without the formation of a cicatrice (eczema madidans and pustulosum, impetigo, pemphigus, variola).

5. Suppuration of the connective tissue of the derma results from the breaking apart of the newly-formed medullary elements, which, being suspended in an albuminous or fibrinous exudation, now represent pus-corpuscles. Pus is a product of the inflamed connective tissue itself, and always a result of destruction of this tissue. Suppuration of the derma invariably heals by cicatrization (abscess, furuncle, acne, ecthyma, variola).

# Current Medical Literature.

## Translations From French Journals.

By J. H. Wiendahl, N. O., La.

### ERYSIPELAS OF THE FACE, COMPLICATED WITH ENDO-PERICARDITIS.

Reported by Dr. Nasse, Chef de Clinique, Hospital St. André de Bordeaux. Gazette des Hospitaux, Sept. 6th, 1879.

It has long been known, that inflammation of tissues of the heart, may occur during an attack of erysipelas. When ancient authors met with inflammations of the mouth, pharynx, the bronchiæ or the serous tissues of the heart accompanying an erysipelas, they looked upon these manifestations as a true internal erysipelas. Of late years Professor Jacond has particularly insisted upon the frequency of these cardiac complications during the evolution of an erysipelas; and he strenuously endeavors to establish a relation between these analogous complications, with those which arise during scarlatina and variola, in order to connect erysipelas with these eruptive fevers; and with some show of plausibility to establish a similarity of disease. He has shown that endocarditis, pericarditis and myocarditis are met with in the same order of frequency, and he in-

sists upon the necessity of making daily examinations of the heart in attacks of erysipelas.

These ideas were confirmed by a certain number of published observations made by M. Sevestre in 1874.

These diseases are of two kinds; those interesting the myocardia, are more or less similar to those which are met with in fevers of a severe type, and in cases where the temperature attains a high degree. The others attack principally the serous tissues of the heart, such as the endocardium and pericardium.

We will re-produce in point a case observed in the clinic of Professor Picot.

Fancis L., aged 29 years; entered the hospital May 16th, 1879; of robust habit; passably fat; had measles at 10; variola at 20; syphilis at 24, for which he was treated during fourteen months; two years ago was attacked with bronchitis, which lasted two months.

He presents to-day an erysipelas of the face, which embraces the whole of that portion of the face constituting the nose and cheeks. It began three days ago by the nose; he does not remember of having recently had any lesions whatever about the face, and attributes the disease to insolation.

The glands of the neck are somewhat tumefied, particularly those of the left side.

Attention is drawn to the heart by a marked expansion over that region. The apex beat is in the fifth intercostal space, about a centimetre anteriorily of the nipple; at auscultation, heart sounds, are very distant, but not abnormal in sound; excepting at the base of the organ a kind of indistinct friction sound. Pulse irregular and intermittent; temperature 39.4°

Prescription.—A blister over the precordial region, and a potion of 75 centigrammes of a digitalis infusion.

May 17th.—Morning, pulse 96; temperature 39.4°; sounds of heart are clearer than on the preceding day, but a bruit de souffle at the apex. Prescription—continue the infusion of digitalis, with the addition of 5 grammes of the extract of cinchona.

Evening.—Pulse, small, irregular, intermittent, 104 per minute; temperature 39.2°; erysipelas progresses, occupies the whole of the face and forehead, and invades upon the scalp, and extends to the ears and to the superior part of the neck.

18th.—Morning, temperature 39.2°; pulse better, fuller without intermission and irregularities; 92 pulsations. Auscultation reveals the same signs as before; mitral souffle and friction sound on a limit with the base of the heart persisting.

Evening.—Temperature reaches its maximum; pulse still at 92.

19th.—Morning, we have a brisk deffervescence of the disease; temperature falls from 39.5° to 38°, pulse is very slow and irregular; tongue good, medication is stopped.

Evening.—Temperature declines to 37°; erysipelas not

having progressed above mentioned limits, begins to fade. Auscultation, we find a double impulse of second heart-sound at the apex.

20th.—Is improving; temperature decreases continuously, and falls below the normal, 36,5°; the face desquamates; bruit de souffle at the apex. Ordered wine of bark.

21st.—Temperature still declines, 36.2°; bruit de souffle persists; paint the precordia with iodine, and sufficient alimentation.

22d.—Temperature remains below normal; the patient experiences no pain, but complains of weakness. Potion of Todd.

23d.—Pulse 44; temperature 36.1°; same state, same medication. This state persists; the strength returns slowly. On the following days no heart blowing is found.

28th.—Convalesence is still very slow; pulse 48, intermittent; these intermittences seem to return at regular intervals, two pulsations, then an absence, and so on. Prescribed 4 pills of 5 centigrammes of caffein.

30th.—Under this treatment the intermittence has disappeared; pulse still small but regular; no souffle with first sound at apex, but still is a little prolonged. It seems without doubt that in this observation, we have had an affection implicating the serous tissues of the heart. The arching of the precordia and the distant sounds observed at the onset, were due to a pericarditis which yielded rapidly to the influence of revulsives, and to the evolution of the primative disease. Moreover, the bruit de souffle observed at various times, at the apex of the heart, and with the first sound and which modified itself gradually, to completely disappear, was due to an inflmmation of the endocardium at the level of the mitral valve.

## NOTE OF A REMARKABLE CASE OF SCROFULA AND CONSECUTIVE TUBERCULOUS.

Dr. Jules Reynard, Gazette des Hospitaux. May, 1879.

In the beginning of October, 1873, I was called to see a child of six years, which the mother said was affected with tabes mesenterica, and for which it was under treatment for a year.

This child, quite emaciated, had upon its neck several characteristic cicatrix, and still two suppurative ganglions. The abdomen was enormous, and had increased much since two months. It had at the time fever each night; there was absence of appetite and extreme weakness; there was an evident ascites; but there existed besides, and as first cause a simple engorgement or a tuberculous degeneration of the mesenteric glands. It was difficult to determine, though the last hypothesis seemed probable. At all events, there was pressing need to relieve the abdomen by drawing off the water.

The operation was done by means of the aspirator, and I drew off about 1500 grammes.

We had next to seek to improve its general condition, and to act with energy against the diathesis. But this child had already taken cod liver oil in large doses, iodide of potash, and posphate of lime in powder. It had taken baths of sulphur, paintings of iodine, without having produced the slightest benefit; its parents had but little faith in these means, and I was obliged to seek a new treatment, with the doubt of having my prescriptions well followed. I then thought of the solution of the chlorhydro phosphate de chaux, (of lime), a preparation which was beginning to be in vogue, and I ordered a table-spoonful at each meal, without any other adjuvant save a strict hygiene.

I must admit, to my great astonishment, the condition of this little patient improved in a very rapid and truly wonderful manner, so much so, that after six months, without any other means, the child looked invigorated and strong, having a normal abdomen, no suppurating glands, in a word, perfectly cured.

For three years I had no report of the child, when in 1877, it was brought to me in almost as great a cachectic condition as at my first visit; but this time it was the lungs that were affected.

For several months already the child coughed without its parents paying attention to it, but it is only its decline, weakness and extreme emaciation which alarmed them.

There was manifest crepitations at the apex of the right lung, and cavernous respiration at the left—with this, some expectoration, but a febrile state each night. I began anew with only the chlorhydro-phosphate of lime; I ordered besides the best of regimen, out door exercise or promenade, sunlight, and a few months afterward, with the exception of the physical signs which still persisted, but to a less degree, he had again made such progress that one could scarce from his improvement believe that he was the broken down and emaciated child which had been seen only a few months previous.

Since I have not lost sight of him, I have again at 4 or 5 intervals, prescribed the above solution of lime, and he has preserved since as satisfactory a condition as possible. This winter, especially, though we experienced great atmospherical variations and a very unfavorable humidity, I did not observe a symptom which could have awakened the least fear. The physical signs have kept apace with his general improved condition, and it is with difficulty that we can detect a weakness of the vesicular murmur. This observation appears to me to be interesting on account of its series of tuberculous manifestations and the rapidity with which it was arrested and improved by this one medicine to the exclusion of all others.

I have already published a few notes upon this subject in this journal, but I have never observed as pure and as conclusive

a case. I do not pretend to conclude that other medications are null or of little value. Phthisis is not one we all know. But there is a fact which overides all, especially at its onset; it is the general breaking down of the economy; at first it is the effect of the disease and later it favors its development. It is against this peculiar state or condition that the chlorhydro-phosphate of lime has such marvelous action.

Better than all others, in fact, this medicine awakens and stimulates the long lost appetite. It facilitates digestion and assimilation, it acts besides directly upon the general and it may be the local condition.

But with this potent fact, there are diverse symptoms which require a special treatment. It is thus that in most cases that wood creosote is needed to moderate expectoration and seems to have a kind of topical action. The sulphate of atropia will equally produce good results against nocturnal sweating. In certain cases we should have recourse to arsenic, etc., etc.

Even cod oil which is used so often without discretion and is such a common placed remedy, may be very useful if given at intervals only, even if given alternately with the solution of the chlorhydro-phosphate of lime, or simultaneously, which would render its digestion easier.

Nothing should be neglected; but even if prevailing symptoms demand a different medication, the chlorhydro-phosphate of lime can be given in all cases of phthisis. This is what is demonstrated among many other observations, and the one which I here relate, since with it no other medication was employed.

## DOES SYPHILIS CONSTITUTE AN ABSOLUTE OBSTACLE TO MARRIAGE?

By Dr. M. Fournier, Gazette des Hospitaux.

It is often remarked, that we should not marry, when we have had syphilis, this, Dr. Fournier considers an exaggerated expression of faith and sentiment, but says, we should first get cured, then marry.

That it is an insurmountable obstacle, and an absolute interdiction to marriage, he says: each day's observation shows incontestable examples, and that we daily meet with men whom we have treated for syphilis, and who have married, and have absolutely not transmitted the disease to their wives, and have had children as hale and hearty as could be desired. The proofs to this truth abounds in the recollection of all practitioners. As for myself, he continues, I have fifty-one complete records. These fifty-one syphilitic husbands have had ninety-two children. I remember particularly one of these has four and the other five children; physician of their families and under daily surveillance, I have never observed the slightest trace of syphilis, either in their wives nor in their children.

He concludes, yes, a hundred times, yes, one can marry after having had syphilis. But one should marry only under certain conditions, which it is necessary to determine.

The danger that one incurs by marrying without having the affection cured, is dangerous both as a father and husband.

He is dangerous as a husband by the lesions to which he exposes his wife, and in two ways:

1st. By simple, common and vulgar contagion by which he may transmit syphilitic lesions in the thousand intimate relations of conjugal life.

To cite an example, a young gentleman who had married contrary to my advice, having syphilitic sores at the mouth, which were taken for ulcerations, due to the abuse of cigarettes; three months after his marriage, his wife had an indurated chancre of the lip, due to a syphilis which was not yet cured; examples of the kind are frequent in the newly married; is easily understood, first on account of the extreme contagiosity of secondary accidents, and again on account of the very multiple relations and the familiarities of domestic life. It would indeed be a rare exception to see a young wife live beyond a few months with a syphilised husband without contracting the disease—as remarked by a wit, syphilis is divided between man and wife as the daily bread.

2d. By placental contagion or by contagion, a young girl espousing a man with a syphilis in its vigor, you are after a few months summoned to her for various forms of accidents of the skin of a syphilictic nature, such as mucous patches at the mouth, adenopathies and alopecia, etc., etc. If you enquire into the origin of the accidents, you find no trace of initial chancre, nor bubo, the faithful companion of chancre; you find but secondary manifestations, without any trace of primitive signs; on the other hand, if examining the husband aside, and interrogating him whether he has observed some slight erosions, he protests energetically, and affirms that he has nothing of the kind, and that he has taken special care to examine himself after each congress, etc.

With truth indeed the wife may be syphilised by the mere contact of this exteriorly healthy man: this fact, apparently paradoxal, has been too frequently met with to be able to entertain a doubt; it produces itself with a significative insistance, and it commands in reality. This mysterious contagion is explained by the fact that the woman is pregnant—always in these cases, you will find that the woman has been either pregnant or aborted some few days before, and, in fact, the mother has taken the syphilis of its child, and not from her husband. The contagion was produced by a placentary exchange: this is to-day an absolutely authentic fact.

In resumé, a sphilitic husband can become a source of danger to his wife: *firstly*, directly by the transmission of syphilitic accidents; *secondly*, indirectly by his fecundating power, in pro-

creating a syphilitic child which communicates syphilis to its mother.

B. A man carrying a non-extinguished syphilis is dangerous as a father to his children. Until of late the heredity of syphilis was considered as fatal, but the question has changed; notably in Germany, an effort has been made to arrest this paternal heredity. The syphilis of the father, for some authors, is rarely hereditary; for others, it is never. It has been written that the paternal influence at this aspect is null, and that the offspring of a syphilitic man is healthy.

This doctrine is tainted with great errors and exaggerations, that it imports, even in a social view, that we should combat with energy. I maintain, as a constant fact, that a syphilitic father is a source of mischief to his offspring. But I admit that a syphilitic heredity coming alone from the father, the mother remaining free, is much less rigorous than has been upheld. The father being syphilitic, the mother healthy, the child has all chances, when born, not to be syphilitic.

This concession made to the partisans of the doctrine which I oppose, I proclaim the results of observation, and I maintain that it is not true that the paternal influence is never reproduced upon his offspring. If the paternal heredity occurs seldom and rarely, it happens at times. The father a syphilitic, the mother being healthy, have produced syphilitic children. Ricord, Trousseau, Diday, Liegois, etc., etc., all have published reports of such occurrences. This is, however, but a small item of the question. It becomes more grave by the following considerations: The death of the fœtus in utero is a very common occurrence in the cases in question. The child of a syphilitic father dies in the womb of its mother, and is expulsed by an abortion or by a premature labor.

A young wife, becoming pregnant, aborts once, twice, three times, successively, without our becoming able to discover absolutely any other cause than the syphilis of the father, and what is still more convincing is the means of proof; the father being treated, each successive pregnancies attain their end, and the children are born living and in good health. I have observed these facts a great number of times. Another example among many others: I one day met one of my schoolmates whom I had not seen in many years; he relates his life and misfortunes; his wife, though well constituted and very robust, has had four successive abortions. I recollected that he had formerly had an attack of syphilis, which had been made light of and left untreated. I advised him to undergo a serious course of medication. This advice was followed, and fifteen months later I had the pleasure of hearing that he was the happy father of a healthy born child. Two subsequent pregnancies were followed by alike happy results, his oldest child being ten years to-day, and very robust and healthy.

In resumé, each time that we meet with a series of successive

abortions, happening in a well formed and healthy woman, we should often remember that they are attributed to no other cause than to the syphilis of the father, which kills the children in utero.

Another capital point is, that a syphilitic is a source of danger to his children in quality of spouse to their mother. He can, in fact, transmit the disease to his wife, and from them, both parents being syphilitic, what will be the lot of the children? For a child born of a syphilitic father and mother there are but three alternatives: firstly, either it will die before birth, and assuredly it is what would be the best for it; secondly, or it will be born at term, but bearing the taint of syphilis; thirdly, or it will survive with a compromised health, and exposed to all the alternatives of disease.

a. For the first case, death in utero, the experience is known. A thousand facts testify to this truth. All other observations concur in a manner to appear to having been stereotyped on the same type. This baneful influence shows itself even upon ulterior pregnancies; we meet with a series of 4, 6, 7, all terminating in the same manner. I saw at Lourcine a woman who married at 19, a vigorous and superb woman, who had three happy deliveries. Her husband, in an extra-conjugal adventure, caught syphilis and communicated it to his wife, who became pregnant and aborted at the 5th month; a second pregnancy terminated by the premature birth of a dead child; a 3d, 4th and 5th with the same fatal results; a 6th by an abortion at the 3d month; a 7th by a miscarriage at six weeks. This fact is extremely convincing; seven abortions succeeding to three healthy deliveries, and occurring after the transmission of syphilis.

b—The syphilitic born and living child is exposed to all the consequences of infantile syphilis; by means of all care and devotion we scarce save a few victims, but the greater majority of children die. It may be possible that the child escapes death and syphilis, but the hereditary influence will present itself in another form: by the native debillty which characterizes the most of the children, puny, oldish, wrinkled and so poorly constituted; nothing attests syphilis, but they are so weekly that they cannot live, and shortly succumb, flickering out without disease, without apparent cause, even at the autopsy, or they are subject to certain morbid predispositions: 1st. They are often born, or become hydrocephalic; 2d. They are frequently predisposed to nervous troubles, to epilepsy of childhood, later to convulsions; often to simple convulsions. Finally, they have a manifest tendency to lymphatism, and offer a feeble vital resistance to scrofula. I do not mean that scrofula is for that a metamorphosis of syphilis, as has been wrongly pretended. It is a morbid entity which has its character as well as syphilis, but it is incontestable that syphilis constitutes a predisposition to scrofula, in so far as the debilitating,

asthenic diseases impoverishes the organism in the same manner as the physiological misery of confined air and over-crowding, etc., etc.

c—A man marrying with a non-extinguished syphilis is a source of danger to himself, on account of the personal dangers to which he is exposed. He is exposed to a series of accidents, infinitely serious and even mortal. What, save some few exceptions, these accidents come only at a distant period, in a tertiary state, contracted usually in youth and early manhood, syphilis becomes only at a mature time of life, when he has become the father of a family. What a sad situation, medically speaking, is that of a man who has all the chances of being exposed to the assaults of a syphilitic diathesis. He is sick for the future; he is injured physically, indebted to syphilis; sooner or later he will have to acquit himself. Is it honest, is it moral that this man should think of marrying and becoming a father? This is assuredly immoral and inadmissible.

After having exposed how a syphilitic man is dangerous in marriage, we will pass now from the theory to practice and endeavor to establish at what conditions one having had syphilis should be to be pronounced admissible to marriage.

The solution of this question is assuredly very perplexing; it brings us upon a field yet unexplored, when we have not the experience of our predecessors to guide us on, at least of those whom a true and just respect have pronounced the masters of art. There is no programme traced in advance; it is after what I have read and observed that I will detail to you the conditions to which, in my opinion, we should advise one in that category to marry.

This man must fill five indispensable conditions:

1st. Absence of actual manifestations. This is a consideration absolutely elementary for all; the mere presence of the slightest accident should be a cause of not marrying; it would be a startling testimony of his disease, and the subsequent dangers to which his wife and children would be subjected. This as a cause of exclusion of marriage is evidently too formal not to seem superfluous to insist further. Yet, we should not be misled, for many another instance of this incredible audacity has been observed; I have myself met more than twelve examples of men affected with actual symptoms of syphilis on their marriage day, such as psoriasis palmaris, affections of the scalp, of the mouth, mucous patches, syphilitic sarcocele, and even indurated chancre. What can be their motives? It may be either ignorance or interest.

2d. Advanced age of the disease. We may formulate this axiom: The more recent the syphilis of the husband, the more numerous and grave are the dangers which he carries into the married state; and reciprocally, the more old the syphilis, the more favorable are the chances for him. It is, in

fact, the recent syphilis which is liable to greater contagion: it is in the fifth, sixth and tenth months that the manifestations of syphilis are more disseminated, the more dangerous and predisposed to returns. Nothing is more apt to recur again or repeat itself than mucous patches: in smokers the erosions of the mouth are reproduced as often as ten to twenty times in a short time. The recent accidents of syphilis are formidable, inasmuch that they have a predilection for the mouth and genital organs, two localities essentially dangerous relatively to the contagion in marriage.

It is in the secondary period also that the phenomena are mild and insignificant in appearance; they are the more dangerous, precisely on account of their apparent mildness, for we know that they are then eminently contagious.

On the contrary, at a more advanced or older period, those dangers no longer exist, or are more restricted, for opposite reasonings; the manifestations of tertiary syphilis are in fact more discreet, consists of deeper lesions, wide and important, of which we are not unacquainted with the danger.

The danger of heredity is not less than that of the contagion to the wife; the distant period of the disease would still be a favorable condition to avoid this danger. A woman has first one or two miscarriages; then, by the influence of times, a premature labor, then she gives birth at term, but of a still-born child or to one predisposed to soon die; finally she brings forth a living child. Time then improves the paternal influence.

The conclusion is then that an old syphilis is an essential condition to bring into wedlock; a syphilitic has no right then to aspire to marriage only if a certain period of time elapsed since his syphilitic inoculation. But what is this period of time? This is a delicate point; to give an arithmetical measure is a serious difficulty. On the one side, the age of the syphilis is not the only thing to be considered; but to formulate a precise period, I do not believe that a syphilitic should think of marrying before a minimum of from three to four years of time has elapsed, and a greater time would be best. The longer he will put it off, the more the chances will be in his favor. Within this period, observations show but few catastrophies; beyond, the accidents are attenuated to a considerable extent.

3d. A certain period of immunity should elapse since the last manifestation. The patient should have remained completely exempt from all specific manifestations during a certain time—is a security which seems necessary under various considerations. This time having elapsed, enables one to judge of the degree of abatement of the diathesis; it is an evidence of the actual non-activity of that diathesis, of which it announces the wearing off and consequently the decrease of the dangers of contagion and heredity.

4th. Non-threatening character of the syphilitic diathesis.

Assuredly there exists cases of syphilis of a light and grave form. The former terminates with a small number of superficial accidents, while the grave form, even when treated, produces serious lesions. The quality of the syphilis is then not without serious importance. If the type be light, with mild and superficial lesions, if it speedily yielded to treatment, we have excellent givings for the client. All this total of benignity tranquilizes the physician, renders him more tolerant, and favorably predisposes his verdict. But inversely, if he has to deal with a bad syphilis, the conditions change. We will cite a few principal types of this kind.

a. Bad syphilis are those which are remarkable for the incessant reproduction of the same accidents, especially at the mouth and at the penis, even when they are quite superficial. Thus I saw a young man who had nothing but a roseola, palmar psoriasis and lingual syphilides, which were frequently reproduced, in spite of an energetic treatment carried to 15 and 20 centigrammes of the proto-oxide. The affection renewed itself until this day. After each treatment the ulceration disappeared, and renewed itself later, is cured by the treatment, and so on. What would have happened had I permitted marriage after a first cure? The question is answered; he has a mistress, and he has communicated the disease.

b. Are bad syphilis those which are of a grave character at diverse titles, by the intensity, by the multiplicity, and by the nature of the accidents; those which soon assume the tertiary form, become visceral and remain refractory to all treatment.

c. Those which invade an important organ essential to life, such as the brain. Cerebral syphilis is particularly dangerous on account of the organ affected and the reproductions to which it exposes, for they are almost always constant. Thus, a young man who had, in 1868, accidents for which he was imperfectly treated, married in 1875, in spite of my counsel, and was taken with cerebral symptoms, hæmiplegia, amnesia, hebetude. He was cured of his hæmiplegia, but he remained in a state bordering upon dementia. Another one perceives that whilst hunting he cannot carry his gun with the left arm; he is taken in the following year in the movements of the tongue, speaks confusedly, stutters; treated and cured. He marries, contrary to my advice; ten days afterwards he is taken with grave cerebral symptoms, followed by hæmiplegia and amnesia, and six months later he is taken with dementia.

5. Specific treatment sufficiently prolonged, is, parexcellence, the capital condition. It is this treatment which lessens and conjures the dangers of syphilis, and which constitutes the best safeguard at first against the personal risks to which the patient is exposed.

We can in fact affirm to-day that a syphilis energetically treated at its onset and during a certain length of time, has no tertiary period, whilst a non-treated syphilis or unsufficiently

so, runs to this tertiary period, save in rare and inexplicable exceptions.

It is yet the treatment which diminishes and suppresses the causes of the contagion; it is still it, which diminishes and suppresses the chances of heridity. What relates to the father, a wife undergoes a series of abortions which have no other cause than the syphilis of the father, let this one be treated and the pregnancies terminate favorably. Likewise for the mother; she receives a syphilis from her first husband and becomes a widow; she marries again to a healthy man of which she conceives children, which are syphilitic; she is treated and gives birth to healthy children. Finally it operates the same for the combined influence of father and mother; syphilitic couples have syphilitic children. They are treated and produce children exempt from syphilis. There is none; a new and extraordinary fact has been observed. It has proven sufficient, for a child to be healthy, that its syphilitic parents be under the provisory mercurial treatment. A syphilitic woman has seven pregnancies, followed by seven children, which all die; she is treated, has an eighth pregnancy which terminates by the birth of a healthy child, the same for a ninth; for a tenth she is not treated, she has a syphilitic child which dies at the sixth month; she is newly treated and an eleventh birth is produced by a healthy child.

In resumé, all these considerations prove the corrective influence which is exercised by the syphilitic treatment. The capital condition for a syphilitic man who marries, is that he should be sufficiently treated, that he should be subjected to a long treatment, regulated and methodized. Combined with time, the specific treatment, by successive medications co-ordinated during several years, is the best security to hope for a cure, and consequently to authorize marriage. Time on one part, treatment on the other, these are the two major conditions which one should furnish who wishes to enter into wedlock.

I do not wish to terminate without a passing remark with regard to sulphurous waters, which are commonly considered by the common class as possessing the propriety of bring out the traces of a latent diathesis, "of bringing out syphilis." Each year a great number of syphilitics religiously go to the springs to undergo the 21 days traditional cure, in the hope, "if there remains anything in their blood," that the sulphurous waters will bring it out; if nothing comes out, they consider themselves cured and in a fit condition to marry.

This revealing action of the sulphurous waters is far from being real. These waters are no doubt useful to the syphilitic upon other reasons and especially as tonic and as adjuvants to the mercurial treatment; but they are not by any means a discharging reactif of syphilis as an acid acting upon a salt; this is absolutely false.

The truth is that, without doubt, in reason of the stimula-

tion of which I speak, we often perceive that the ferrruginous waters produce eruptions upon syphilitic subjects; the syphilictic exanthemata are common with these patients; but, many and many times the treatment in these stations does not produce any eruptions whatever in the patients who have remained syphilitic; one, two, five, even six seasons have not produced any revealing effect. We should then abandon the legend of the revealing action of sulphurous waters; let us take advantage of their action, if there be any; this is better than nothing; but, for once that they will make the diagnostic, twenty times they will fail; let us not abuse this absolutely false criterion.

Conclusion—To all who have not filled the five indispensable conditions which we have formulated, we should refuse marriage.

We will declare admissible to wedlock whoever shall present these all united. J. H. W.

## Seventh Annual Meeting of the American Public Health Association.

The American Public Health Asssociation met in the hall of the House of Representatives, Nashville, Tenn., on Tuesday, November 18th, at 12 M,, President J. L. Cabel in the chair, and about two hundred members present.

After some preliminary business, and the reading of several invitations to the Association to visit places of interest, Col. Geo. E. Waring, of Newport, Rhode Island, read the following paper:

### THE DRAINAGE AND SEWERAGE OF CITIES.

The President has asked me to prepare a paper concerning the most perfect methods of city sewerage, one which may serve as a standard of comparison in considering the character of existing work. It would savor of presumption to describe or to prescribe methods radically different and better than those now in use. It is impossible to foretell the improvements which are to grow out of the present rapidly increasing interest among intelligent and ingenious men in all that relates to sanitary practice. If I were to attempt now to set forth the details of a perfect system of sewerage, I fear that my recommenda-

tions, like Dr. Richardson's Hygeia, would surpass what practical men and investors of capital would accept.

The most that it is prudent to do is to consider the question in its purely sanitary bearings, and to indicate in what way the best requirements of public health may be met, in the light of our present knowledge.

So far as we can judge of the future from the indications of the present, it would seem that in one respect we are to witness a very marked change in the practice of sanitary engineering. There is much reason for believing that there will be a distinct separation between the application of sewerage to the removal of domestic and manufacturing wastes and soil water, and the construction of conduits for the protection of public and private property against the action of storm water. This latter, like the construction of roadways and bridges, will be treated as a purely civil engineering question, having, at best, only an indirect sanitary relation. The interests of public health, so far as sewerage is concerned, will, in my opinion, be best served by a close adherence to the collection and removal of foul waters, and to their proper final disposal.

This suggestion is not new. The discussion between the advocates of the combined and the separate systems of sewerage, especially in England, has long been active. The issue between them seemed doubtful until the matter of agriculture or chemical purification of the effluent became prominent.

The arguments in favor of the exclusion of storm water from the sewer proper, seem to me so conclusive, that I no longer hesitate to accept such separation as essential to the best sanitary sewerage.

Sewers large enough to remove storm water, according to the usual formulas, are open to several serious objections.

The question of cost is so often the controlling question, even in improvements of the most vital importance, that the expense entailed by the construction of storm-water sewers constitutes an insuperable obstacle in the case of many a small town where sewers are most necessary. Even in the larger cities, the expenditure in this direction might sometimes, if not always, be economized for the benefit of other necessary work.

The larger the sewer the more difficult becomes the matter of ventilation.

Cases are extremely rare where sewers of the storm-water size are not, at least during the dry and hot season, sewers of deposit, to such an extent as to have their air made most foul by the decomposition of their sediment.

Where the question of final disposal has become important, the admixture of storm-water with the sewerage leads to the constant embarrassment of the system, whether the process be chemical or agriculture.

There seems to be no controlling reason why storm-water should be admitted to the sewers at all for very long reaches

of the street; and not seldom, throughout the whole of the smaller towns, the whole rain-fall may be discharged over the surface without causing inconvenience.

Until about 1854 the cities of Albany and Troy, both large towns, and both having very steep grades, terminating on level ground, had no storm-water sewers. The inconvenience caused during heavy storms was inconsiderable, and there was practically no material injury to public or private property. I am informed by the engineer of both cities that neither inconvenience from the overflowing of the streets nor injury from wash constituted an essential argument in favor of sewerage. The sewers were built to the storm-water rise only in conformity with the general custom.

The carrying of surface water to a depth of 10 or 15 feet below the surface seems to be at least unnecessary. Street wash can be safely admitted to sewers only after passing through settling basins, which are sure to accumulate an offensive and dangerous amount of decomposing filth.

I believe that one of the most important improvements that we are destined to see is the removal of storm-water, as far as possible, by surface gutters—carrying away the greater accumulations through very shallow conduits, largely, perhaps, through covered gutters, easily accessible for cleaning and flushing.

This part of the engineering problem being satisfactorily provided for, the sanitary drainage of a town—the removal of the wastes of its population—becomes a simple problem. It implies, however, one condition, which, although almost unknown in America, has been shown by foreign practice to be an attainable one—that is, it requires that the streets be kept clean by some other means than occasional drenching by storms. There is no more inefficient, costly and dangerous scavenger than the rain which falls upon the surface of our roadways and washes their horse-droppings into the catch-basins at the street corners.

In my judgment a perfect system of sanitary sewerage, for a small town or a large one, would be somewhat like the following:

No sewer should be used of a smaller diameter than six inches, because (a) it will not be safe to adopt a smaller size than 4-inch for house drains, and the sewer must be large enough surely to remove whatever may be delivered by these; (b) because a smaller pipe than 6-inch would be less readily ventilated than is desirable; (c) and because it is not necessary to adopt a smaller radius than three inches to secure a cleansing of the channel by reasonably copious flushing.

No sewer should be more than six inches in diameter until it and its branches shall have accumulated a sufficient flow at the hour of greatest use to fill this size half full, because the use of a larger size would be wasteful, and because, when a sufficient

ventilating capacity is secured, as it is in the use of a six-inch pipe, the ventilation becomes less complete as the size increases, leaving a larger volume of contained air to be moved by the friction of the current or by extraneous influences, or to be acted upon by changes of temperature and of volume of flow within the sewer.

The size should be increased gradually and only so rapidly as is made necessary by the filling of the sewer half full at the hour of greatest flow.

Every point of the sewer should, by the use of gaskets or otherwise, be protected against the least intrusion of cement, which, in spite of the greatest care, creates a roughness which is liable to accumulate obstructions.

The upper end of each branch sewer should be provided with a Field's flush tank of sufficient capacity to secure the thorough daily cleaning of so much of the conduit as from its limited flow is liable to deposit solid matter by the way.

There should be sufficient manholes, covered by open grating, to admit air for ventilation. If the directins already given are adhered to, manholes will not be necessary for cleansing. The use of the flush tank will be a safeguard against deposit. With the system of ventilation about to be described, it will suffice to place manholes at intervals of not less than 1000 feet.

For the complete ventilation of the sewers it should be made compulsory for every householder to make his connection without a trap, and to continue his soil pipe to a point above the roof of his house. That is, every house connection should furnish an uninterrupted ventilating channel, four inches in diameter, throughout its entire length. This is directly the reverse of the system of connection that should be adopted in the case of storm-water and street wash sewers. These are foul, and the volume of their contained air is too great to be thoroughly ventilated by such appliances. Their atmosphere contains too much of the impure gases to make it prudent to discharge it through house drains and soil pipes. With the system of small pipes now described, the flushing would be so constant and so complete, and the amount of ventilation furnished, as compared with the volume of air to be charged, would be so great that what is popularly known as sewer gas would never exist in any part of the public drains. Even the gases produced in the traps and pipes of the house itself would be amply rectified, diluted and removed by the constant movement of air through the latter.

All house connections with the sewers should be through inlets pointing in the direction of the flow, and these inlets should be funnel shaped so that their flow may be delivered at the bottom of the sewer, and so that they may withdraw the air from its crown; that is, the vertical diameter of the inlet at its point of junction should be the same as the diameter of the sewer.

All changes of direction should be on gradual curves, and, as a matter of course, the fall from the head of each branch to the outlet should be continuous. Changes of grade within this limit, if considerable, should always be gradual.

So far as circumstances will allow, the drains should be brought together, and they should finally discharge through one or two main outlets.

The outlet, if water-locked, should have ample means for the admission of fresh air. If open, its mouth should be protected against the direct action of the wind.

It will be seen that the system of sewerage here described is radically different from the usual practice. I believe that it is, in all essential particulars, much better adapted to the plan of sanitary drainage. It is cleaner, much more completely ventilated, and is exactly adapted to the work to be performed. It obviates the filthy accumulation of street manure in catch basins and sewers, and it discharges all that is delivered to it at the point of ultimate outlet outside the town before decomposition can even begin. If the discharge is of domestic sewage only, its solid matter will be consumed by fishes if it is delivered into a water-course, and its dissolved material will be taken up by aquatic vegetation.

The limited quantity and the uniform volume of the sewage, together with the absence of dilution by rain-fall, will make its disposal by agricultural or chemical processes easy and reliable.

The cost of construction, as compared with that of the most restricted storm-water sewers, will be so small as to bring the improvement within the reach of the smallest communities.

In other words, while the system is, in my judgment, the best for large cities, it is the only one that can be afforded in the case of small towns.

Circumstances are occasionally such, as in St. Louis, as to require extensive engineering works for the removal of storm-water through very deep channels. Ordinarily, as I have before said, the removal of storm-water is a very simple matter, if we will accept the fact that it is best removed, so far as possible, by surface gutters, or, in certain cases, by special conduits placed near the surface.

It is often necessary, in addition to the removal of house waste, to provide for the drainage of the subsoil. This should not be effected by open joints in the sewers, because the same opening that admits soil water may, in dry seasons, and in porous soils, permit the escape of sewerage matters into the ground, which is always objectionable. Soil water drains may be laid in the same trench with the sewers, but preferably on a shelf at a higher level, and they should always deliver into the upper part of the sewer or into a man-hole at a point above the flow line of the sewerage.

There is one point connected with the drainage of towns which is not sufficiently appreciated, especially in this country, that is, that it is easy and cheap to secure a deep outlet in low-land and to deliver sewerage at a considerable elevation for agricultural treatment by artificial pumping.

The average cost of pumping for water-works is about 9 cents per foot of elevation for each million gallons raised.

On this basis the cost of raising the sewage of a town of 10,000 inhabitants, supposing every three persons of the population to contribute 100 gallons per day to the flow, would be about 3 cents per day for each foot of elevation.

Even supposing that 20 inches or about one-half of the annual rain-fall finds its way into the subsoil, the cost of lifting this 10 feet to a surface outlet would, on the same basis, cost only about $160 per annum for each one hundred acres of the town area.

Both of these estimates are practically somewhat too low, because a small amount of water cannot be lifted relatively so cheaply as a large amount. I give these figures only to show that, with a community of any considerable size, it is really a matter of minor consequence whether the natural outfall is high or low.

The experience of Holland, in the practice of drainage, indicates a complete relief for the natural disadvantages even of the city of New Orleans, of which the cost would be quite insignificant as compared with its benefits.

Many of our riparian towns, dependent upon high lying water as the outlet for their drainage, or, like Chicago and Milwaukee, delivering their foul drainage into streams whose contamination means the contamination of the town itself, may find their only practical relief by means of an artificial outlet. The city of Boston is now establishing a conspicuous example of the application of mechanical power to deep drainage and distant removal, even applying this costly means for the discharge of the rain-fall of an enormous area.

Aside from its benefit in securing deep drainage, discharge by pumping makes us quite independent of natural topography in adopting means for agricultural disposal. Pumping, and the separate removal of foul waters, puts it in our power, under all circumstances, to adopt this means for purifying our outflow. Along our greatest rivers, from a sanitary standpoint, the disposal question counts for nothing. The Mississippi river will annihilate the sewage of St. Louis to whatever size she may grow; but there is an enormous proportion of our towns which must, for purely sanitary reasons, adopt some other means of outlet than delivery into rivers and harbors.

There is an agricultural consideration, and an important one, which looks to the utilization of all our sewage, but in the present condition of our agriculture this must remain a secondary argument. Wherever we resort to irrigation as a means of

purification, the manural value of the sewage will serve to lessen the cost of our work. Probably it will nowhere repay the whole cost.

The methods of irrigation disposal are various and all are not equally well adapted to all conditions. The outflow of a large town can be purified satisfactorily, either by simple irrigation over large areas or by intermittent downward filtration over much smaller areas of land properly graded and deeply underdrained. Under this system the discharge is intermittent, and during the intervals the soil filter is purified by atmospheric action.

The outflow of smaller towns, of public institutions and of suburbs and country houses, may be much the most satisfactorily treated by the absorption-drain or sub-surface irrigation system, working in conjunction with Fields' flush tank. By this system a small area of land, naturally or artificially well drained, is underlaid at a depth of ten inches from the surface, by a series of open-jointed, agricultural drain tiles. At each discharge of the flush tank, the accumulated sewage is sent rapidly into the tiles, whence it escapes through the open joints into the soil. During the interval between the discharges the water, purified by filtration, settles away to the subsoil, and fresh air enters to supplement, by oxidation, the purifying action of the roots of the grass or other crop growing on the land.

This latter system has now been so thoroughly tested under various conditions as to climate and quality of soil as to have proved itself of almost universal applicability. It has the very great advantage that, as the sewage never appears at the surface of the ground, it may be carried on in immediate proximity to the dwelling. It would be equally effective, under proper arrangement, in dealing with the sewage of cities; but for such use it would be much more costly than would the removal of the sewage to a distant field, where surface irrigation would be unobjectionable.

I trust that, as I am neither a Southerner nor a physician, I may be excused for attaching more importance than many of you probably do to the proper drainage and cleansing of a city, and to the proper disposal of its outflow, than to any system of quarantine. My knowledge of the history of the yellow fever epidemics in this valley is infinitely less than yours; but I feel warranted, and I take my warrant from the history of the plagues which devasted the filthy mediæval cities of Europe, and from my own knowledge of the want of cleanliness and want of drainage in the city of Memphis, in venturing the suggestion that even that fever-smitten town may be made an impossible field for the invasion of yellow fever in an epidemic form. While yellow fever is for the moment uppermost in all our minds, and while its sudden and more fatal outbreak strike

the public imagination with peculiar force, we should, as sanitarians, never lose sight of the fact that it is one of our minor diseases; that, indeed, along the banks of the Mississippi river far greater mortality and infinitely greater disability results from the constant operation of diseases which should come equally within our purview, and which are equally preventable by measures of sanitary improvement.

NIGHT SESSION.

The attendance was unusually large, many ladies being present.

Addresses of welcome were delivered by his Excellency Gov. A. S. Marks, Dr. E. M. Wight, President of the Tennessee State Medical Society, and His Honor, Thomas Kercheval, Mayor of Nashville.

The President, Dr. J. S. Cabell, delivered his Annual Address which was an elaborate and exhaustive treatise upon the organization and work of the National Board of Health.

SECOND DAY—WEDNESDAY, NOV. 19.

The Association met at 10 A. M. In the absence of Elliot C. Clark, C. E., of Boston, Dr. Chas. F. Folsom, of Boston, read that gentleman's paper upon "The City Scavengering of Boston," in which the removal of garbages, ashes, etc., was fully described.

Rev. Hugh Miller Thompson, of New Orleans, read an exhaustive paper on the "Disposal of the Garbage at New Orleans," in which he described the present method as contrasted with that in vogue before the epidemic of 1878.

A lengthy paper on "Municipal Sanitation," by Dr. E. J. Janeway, was read.

AFTERNOON SESSION.

Dr. A. L. Gihon read an interesting and ably prepared paper on "The Protection of the Innocent and Helpless Members of the Community from Venereal Diseases and their Consequences."

On the conclusion of the paper a motion was made and unanimously carried that the president appoint a committee of five who should consider the suggestions, or substance of the address, and report at the next meeting resolutions looking to

the establishment of a plan for protection from veneral diseases, and Dr. Gihon be made chairman of the committee.

EVENING SESSION.

A paper by Dr. Alfred E. Woodhull, U. S. Army, was read, entitled "May Not Yellow Fever Originate in the United States?" the paper being an "Etiological Study of the Epidemic in Savannah in 1876."

Dr. Woodhull claimed that the epidemic of 1876 did unquestionably originate in Savannah, and adduced argument to support his theory.

THIRD DAY—MORNING SESSION.

The meeting was called to order at 9:30 A. M.; election of officers being in order, the following were elected:

Dr. J. S. Billings—President,
Dr. Saml. Choppin—First Vice-President,
Dr. R. C. Kedsil—Second Vice-President,
Dr. J. B. Lindsley—Treasurer.

New Orleans was selected as the place of meeting of the next Annual Session.

The President appointed as a committee, upon the suggestions embodied in Dr. Gihon's paper, the following gentlemen: Dr. A. L. Gihon, W. E. Griffith, J. M. Keller, Sternberg and Bailhache.

Dr. W. H. Brewer, of New Haven, Conn., read a paper on the "Interesting phenomena Developed by the Prolonged Immersion in Water of the different Woods."

Dr. J. D. Plunkett, of Nashville, Tenn., read a paper on "Cotton as a Fomite," in which he said that "the recognition of cotton as one of the class of extra-hazardous fomites, and its capacity to transmit or communicate yellow fever or other infectious diseases, has up to this time scarcely been questioned. In 1859, a select committee of the Chamber of Commerce of New York, reporting upon quarantine laws, were so impressed with the dangers attaching to cotton that they singled it out especially, and formulated a distinct interrogatory regarding it. A diversity of opinions were given, all, however, leading to the assumption that cotton was particularly dangerous. I,

myself, however, having exhausted all sources of information at my command bearing upon this subject, the following strange and remarkable fact is elicited, that not a single case of yellow fever is recorded as having originated from contact with cotton carried from an infected place. Whether this negative testimony be due to omission, or establishes a scientific truth, is a matter to be corroborated or disproved by further experience and more careful and extended observation."

Dr. G. B. Thornton, President of the Memphis Board of Health, then read a paper, giving the history of the epidemic of yellow fever of 1879. Not being satisfied as to whether the epidemic was imported, or of local origin, being unable to satisfy himself whence it could have been imported, he rather advocates its local origin.

NIGHT SESSION.

Dr. H. F. Campbell, of Augusta, Ga., read a paper on "The Yellow Fever Quarantine of the Future," of which the following is a synopsis:

What shall be our quarantine? The present quarantine system is impracticable; too cruel for humanity to tolerate. It stupefies the honest convictions of a majority of the profession. Yellow fever is *not* contagious; *i. e.*, not communicable from individual to individual; and though the theory of personal contagions is not generally believed in by the profession, yet the same old laws remain on the statute books.

A quarantine of vessels, and also of railroad trains, should be strictly enforced during the prevalence of yellow fever. Never let a single car, that is freighted from or takes passengers in an infected port, come to a healthy town. Let them be met at least twenty miles from the city by fresh cars, both for the passengers and the freight. Keep out all baggage, trunks, and clothing, but let the individual come in, *even if the fever is on him.* Do not say to the refugee, fleeing from the dread pestilence, Go back, with your wife and children, to the infected region, and breathe again the foul air laden with the seeds of death. Let the individual be thoroughly disinfected; change his clothing at quarantine ground; even wash his head with carbolic acid, if thought necessary, but let him find refuge in a place of safety. The germs in the body of the man himself are incapable of propagation.

The yellow fever subject is laboring under the dire effects of a poison, but centuries of experience have demonstrated that

he can no more communicate his disease by emanations from his own body or secretions, than can the subject poisoned with strychnine communicate his frightful tetanus to his friend or his nurse; as the strychnine itself is required to produce another case, so in yellow fever, a fresh supply of atmospheric disease germs is required to produce the phenomena.

Dr. Campbell said that though at first he disliked the idea of a national or "central" quarantine, yet in the present state of things it seemed to be imperatively demanded. Some of the State Legislatures are controlled by men who actually snarl at the idea of appropriating a mere pittance to the work of sanitation. They refuse to give over $1500 to meet the expenses of the board and to publish its reports, though they are at the same time lamenting the national quarantine and decrying it as a political measure. This alone would make it necessary that Congress should take charge of the matter.

The earliest epidemics of yellow fever occurred at the Northern ports, New York, Philadelphia, Boston, etc.; *afterward* in Savannah, Charleston, etc., and again, after railroad communication became general, in interior towns. At present the fever does not ravage the Northern cities, though it continues its deadly work in those of the South. Why? Because at the South there has not been the knowledge and foresight to keep it out by appropriate legislation and the enforcement of a proper quarantine.

In reference to the preservation of the disease germs in closed rooms, etc., Dr. C. gave it as his belief that such germs do "lie over," but do not retain all of their potency. Yellow fever is an exotic. It finds a soil here where it can produce a fine crop. But the germs then "go to seed," and if not killed by intense cold, but preserved in closed rooms, closets, trunks, etc., may again give rise to a second, but milder, epidemic. In the third year the seed run out; they are virtually killed, having neither potency to again produce disease, nor any reproduction power.

### FOURTH DAY—MORNING SESSION.

Dr. R. G. Jennings, of Little Rock, Ark., read a paper on "Quarantine and its results in the State of Arkansas in 1879."

Dr. D. C. Holliday read the report of the Committee of the New Orleans Medical and Surgical Association, answering in regular order the ten propositions as propounded in the circular of the American Public Health Association. Said report is published in full elsewhere in the JOURNAL.

After the reading of the above report, Dr. Sternberg, U. S. army, offered a resolution to the following effect: "That the report as read be adopted as the unanimous expression of the

opinion of this Association, and as such be communicated to the National Board of Health." Said resolution being informal, inasmuch as according to rule it had not been presented through the advisory committee, was not voted upon, but the final resolutions coming from said committee and adopted by a unanimous vote really embodied all the important suggestions of the above report, couched in many instances in almost the identical language.

Col. John F. Cameron, of Memphis, read a paper on "Camps and Depopulation at Memphis in the Epidemics of 1878 and 1879."

Dr. Chas. F. Folsom said he had been directed by the Advisory Committee to offer the following resolutions, which were unanimously adopted:

Whereas, the National Board of Health has, in accordance with the law which created it, requested the advice of the American Public Health Association regarding the form of a permanent national health organization of the United States, including its relations to quarantine, both maritime and inland, and,

Whereas, the opinions of the Advisory Council of the Association, upon the subject of health legislation, collected and presented to this body through Dr. J. M. Toner, Chairman of the Council, have been duly considered; therefore,

Resolved, that, in the opinion of the American Public Health Association, the present National Board of Health has been of such vast service to the country that it is not expedient to make any essential change in its organization, and that any minor improvement in details should be left to the Board itself.

2. That the investigations which have been commenced by the Board are approved and should be continued, and that similar investigations should be undertaken by it into the consideration and prevention of other diseases as well as yellow fever.

3. That Congress should appropriate sufficient funds to enable the Board to employ the best talent and apparatus in such scientific and practical inquiries.

4. That the operation of the existing quarantine law, and of the rules and regulations prepared by the National Board of Health on that subject, have accomplished great good, and that no change in the law should be made without the most careful and serious consideration.

5. That in the opinion of the Association, the national quarantine should be under the direction of the National Board of Health and of an executive committee, to be selected by that body.

6. That this Association has no suggestions to make with reference to any amendments to existing legislation in regard to quarantine, preferring that they should come from the National Board of Health, as the most competent body to advise whatever may be best.

7. That it is expedient for the National Board of Health to call an international congress for the discussion of the very important subjects of international sanitary quarantine, etc.

8. That is the duty of the General Government to build, equip and conduct, at the mouth of the Mississippi river, a quarantine station at such a place as may be designated by the National Board of Health.

9. That the Secretary of this Association be instructed to forward to the National Board of Health a certified copy of these resolutions, together with the reports and documents of the Advisory Council, and that the executive committee be instructed to such action, during the next session of Congress, as may seem best suited to promote legislation in accordance with these resolutions.

Dr. Folsom also read the following resolutions, but said that, as the points contained in them were included in those of the Advisory Committee, they were not recommeded for adoption:

By Judge J. W. Clapp, of Memphis: Whereas, the appearance of yellow fever as an epidemic in Memphis, Tenn., during the last two summers has created an apprehension that the ill-fated city may continue to be visited by this scourge, the effects of which extend far beyond the infected locality and assume national importance, not only as regards the public health and safety, but as effecting our inter-State commercial relations; therefore,

*Resolved*, that this Association recognizes the fact that the sweeping epidemics which have occurred in Memphis during the past two summers have been of such a character that they are no longer local in their bearings, but *national;* therefore, it is respectfully urged upon Congress the early consideration of measures looking to the prevention of similar epidemics at that point.

By Dr. Gibbs, U. S. Navy: *Be it resolved* by the American Public Health Association, that it shall be the duty of the National Board of Health to designate, for the information of the President of the United States, such foreign ports as shall, by said Board, be deemed infected, in the sense that all vessels, arriving from the same into the seaports of the United States, shall be subject to quarantine laws. The previous sanitary history of said foreign ports, based upon consular and other information, shall be considered by the National Board of Health in designating such infected ports or localities.

*Be it further resolved*, that it shall be the duty of the President of the United States, upon being so advised by the National Board of Health, to cause a general proclamation to issue in

which a list of such ports and localities shall be declared infected in their commercial relations with the seaports of the United States for a period of six months, viz: from the first day of May until the first day of November.

THE ADVISORY COMMITTEE.

The President announced the appointment of the following Advisory Committee:

Alabama—R. D. Webb.
California—Dr. Henry Gibbons.
Florida—Hon. S. C. Cobb, Pensacola.
Georgia—Dr. H. F. Campbell.
Illinois—Dr. J. H. Rauch.
Indiana—Dr. J. F. Hibberd.
Mississippi—Dr. Wirt Johnston.
Louisiana—Dr. D. C. Holliday.
Maryland—Dr. James A. Stewart.
Massachusetts—Dr. Azel Ames.
Pennsylvania—Dr. Henry Hartshorne.
Ohio—Dr. T. C. Minor.
Missouri—Dr. Homan, of St. Louis.
Rhode Island—Dr. E. M. Snow.
Tennessee—Judge J. W. Clapp.
Virginia—Dr. L. S. Joynes.
Michigan—Dr. H. B. Baker.
West Virginia—Dr. James E. Reeves.
District of Columbia—Dr. Toner.
New York—Dr. Elisha Harris.
North Carolina—Dr. J. F. Wood.
South Carolina—Dr. C. W. Chamberlain.
New Hampshire—Dr. L. F. Conn.
Vermont—Dr. H. D. Holtar,
Texas—Dr. Rutherford.
Wisconsin—Dr. E. L. Griffin.
Minnesota—Dr. C. N. Hewitt.
New Jersey—Hon. L. Lilly.
Arkansas—Dr. A. L. Breysacker.
Kentucky—Dr. Pinckney Thompson.
Delaware—Dr. Bush.
United States Army—Dr. McParlee.
United States Navy—Dr. B. F. Gibbs.
National Board—Dr. Stephen Smith.
Commissioner of Education—Gen. Eaton.

Dr. S. S. Herrick gave a statement of the cases of fever which occurred in New Orleans in the sammer of 1879. The cases were only 41 in all, to which number should probably be added seven cases which occurred earlier, beginning June 16,

and between that time and July 3, so mild in type as not to be recognized as yellow fever until they were found to be connected with cases occurring later.

AFTERNOON SESSION.

The time was taken up in discussions upon yellow fever and quarantine.

NIGHT SESSION.

During the discussion of the papers read at the morning session, Dr. Choppin introduced the following resolution:

*Resolved*, That a committee on quarantine be appointed by the American Public Health Association, whose duty it shall be to formulate a system of quarantine with such rigor and precision as to prevent the importation of the specific cause of yellow fever.

Dr. Choppin said that by a non-intercourse quarantine, he meant the detention of vessels at quarantine station, disinfection, separation of the sick from the well. The value of commerce with the ports from which fever was imported was much less than supposed—probably $500,000 to New Orleans—yet the loss by the results of the importation of two cases in 1878 were not less than $12,000,000, and for the country over $175,000,000. There was great hope for utterly stamping out the disease in Memphis and New Orleans by rigid quarantine and the prevention of any further introduction of the poison.

Dr. J. P. Dake, of Nashville, opposed the resolution, because the National Board of Health had this question under consideration, and the resolution was unnecessary.

Dr. Elliott, of Savannah, declared himself to be an advocate of a strict quarantine, but was not in favor of stopping commercial intercourse with the West Indies for six months in the year. He believed such a course to be unnecessary. Will it not answer every purpose to stop the ship at quarantine, discharge the cargo, and thoroughly disinfect the vessel itself? Let this method have a fair trial before proceeding to declare non-intercourse. If the plan is thought to be unsafe, the vessel might be unloaded at quarantine, discharging cargo into lighters, then loaded in the same manner and sent away without coming up to the city at all. At least let this plan be thoroughly tried before proceeding to such extreme measures as interrupting commerce and declaring absolute non-intercourse during the six months of the year when fevers prevail.

Dr. Lloyd Howard thought there ought to be a difference between quarantine rules for different ports. He did not believe in an absolute non-intercourse quarantine.

Dr. Choppin advocated the resolution as necessary.

The reading of the resolution was called for.

Dr. A. N. Bell, of New York, opposed the resolution because shutting off ships would perpetuate disease, as the ships would still retain the infection for years, unless cleansed. We should not be afraid to take hold of the ships and cause the infection to disappear.

Dr. S. C. Cobb, of Pennsylvania, endorsed Dr. Bell's views.

Dr. C. F. Folsom, of Massachusetts, called for the question, and the resolution was rejected.

The following resolutions were adopted:

*Resolved*, That the replies to schedules under circular 2, of the National Board of Health, be referred to that Board.

*Resolved*, That this Association, in adopting the recommendation of the President, that the clerical and traveling expenses of the Secretary, necessary to the performance of his duties as Secretary, be paid by the Association, recommend also that he be paid the sum of $100 for the past year's services.

Dr. Early's resolutions, presented at the afternoon session, were tabled, in accordance with the recommendation of the Executive Committee, as were also resolutions by Dr. T. M. Stevens, of Indianapolis, favoring the establishment in each State of hospitals for the treatment of contagious and infectious diseases.

The following were also tabled, in accordance with a similar recommendation:

By Hon. E. A. James, of Chattanooga:

*Resolved*, That it is the opinion of this Association that yellow fever can originate in the United States.

By Dr. A. N. Bell, of New York:

*Resolved*, As the sense of the A. P. H. Association, we hail with eminent satisfaction the determination of the people of Memphis to institute forthwith such means of practical sanitation as may be deemed to be essential for the redemption of that city from yellow fever; and that we will, individually and collectively, exert ourselves in the promotion of the work.

Votes of thanks were then passed to the institutions of learning and others from whom invitations had been received.

To the Local Committee and the citizens of Nashville for their cordial hospitality and attention to the wants of the members, which has done so much to make this a harmonious and enjoyable meeting.

To Dr. J. Berrien Lindsley, Secretary of the Local Committee, whose laborious services and tireless energy has effected the most successful meeting in the annals of this Association; and to his assistant, Judge Pitkin C. Wright, for his courtesy and attention.

Dr. A. L. Gibon offered the following resolution, which was adopted by a rising vote with hearty applause:

*Resolved*, that the American Public Health Association, re-

cognizing the ability and dignity with which its retiring President, Prof. Jas. L. Cabell, of the University of Virginia, has performed the onerous duties of his office, gratefully tender him its thanks for the invaluable service he has rendered it, and the great cause in which it is enlisted, and assures him that he carries with him the respect and affectionate regard of everyone of its individual members.

Dr. Hewitt, of Minnesota, offered the following resolution, which was adopted:

Resolved, that the thanks of the Association be presented to Dr. H. B. Baker, the retiring Treasurer, and that the Secretary be instructed to communicate to him the genuine condolence in his recent bereavement.

President Cabell said that he did not think the preservation of good order was at all due to him, but to the uniform good conduct of the members. He thanked them kindly, and then declared the Association adjourned. L. F. S.

# EDITORIAL.

## NEW ORLEANS IN 1879.

The summer of 1879 will long be remembered in New Orleans as one of unparalleled healthfulness, and the weeping Jeremiahs of the country now find that they have been mistaken in asserting that to be unhealthy is the normal condition of this city.

The death rate for several consecutive weeks was remarkably low, and on one occasion the total deaths for a week amounted to but 68. This low rate of mortality was attained but once before in eleven years.

The summer months have been remarkably pleasant and in delightful contrast with some of the health resorts to which the residents of this city flocked. The mean temperature has been comparatively low during the months of June, July, August and September, being respectively 88, 87, 81, 78°. Nights rendered oppressive by heat were rare. Reference to the records kept by the United States Signal Service proves that the velocity of the wind was greater than for the corresponding months of the preceding year. These favorable con-

ditions of our climate seem to us to play an important part in accounting for the healthfulness of our city.

Another factor tending to increase the healthy condition of the city has been the wide-spread and earnest endeavors of the Board of Health, the New Orleans Auxiliary Sanitary Association, timely assistance from the National Board of Health, and notable efforts on the part of citizens generally to keep the city as clean as possible. The old plan of dumping garbage from the streets and gutters into vacant squares in the rear of the city has been abandoned, and a system of removal of this foul and offensive matter into barges and deposited into the Mississippi river below the city inaugurated. The streets and gutters have as far as practicable been flushed with river water, and thorough and repeated cleansing of yards, drains and privy vaults has been insisted on.

The question for solution is the cause of this comparative immunity from disease, and we are forced to the conclusion that the combination of factors referred to above must have contributed largely to the general health. Recognizing the necessity of a rational quarantine; insisting as strongly as we can that infectious and contagious diseases shall not be brought to the city we must pass in review several facts in regard to the small outbreak of yellow fever which occurred, and ask whether quarantine and consequent non-introduction of the fever prevented the appearance of the disease. Yellow fever was repeatedly brought to the city; once from Rio Janeiro, and several times from Morgan City. These cases were never perfectly isolated, and, whether they recovered or died, not a single case has been traced to them. Other cases appeared in New Orleans, and one portion of the city was declared infected; here case after case developed, but nothing of an epidemic tendency prevailed. To solve its appearance in the Fourth District, the most importunate introductionist failed to discover that it had been imported, and physicians favoring the theory of spontaneous development, or in favor of the hibernating characteristic of the germs, found a vast field for speculation.

The readers of the JOURNAL have been favored with an

analysis of the cases of yellow fever occurring during the year, by that untiring and pains-taking sanitarian, Dr. Joseph Holt, and the concluding remarks of his article not only will bear repetition, but should be carefully weighed:

"Of three things we are certainly assured; we know that perfect sanitation is the one great experiment yet to be tried in the solution of the yellow fever problem; that the disease has ceased to occur epidemically in certain cities, heretofore scourged, coincidently with an improved municipal sanitation, and, finally, that every city, town, or ship, in which the disease breaks out and spreads, is a city, town, or ship, in a *foul and most unsanitary* condition. And moreover, with all deference and becoming modesty, we challenge any man to cite, with corroborative evidence, one single instance to the contrary: that is, of yellow fever occurring *de novo*, and spreading in a community where there did not exist bad hygienic conditions due to the massing of human excrement and other filth in close proximity to habitations.

"Their streets and premises or decks might look severely clean, but to the scrutinizing eye of a sanitarian, the place would be seen disgustingly filthy.

"If ever we discover the talisman whose charm shall save us from yellow fever, we will also discover upon it a few cabalistic characters, the spring of its magical potency. These, when arranged, will spell one word, 'CLEANLINESS.'"

## Reviews and Book Notices.

*Clinical Medicine.—A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of Students and Practitioners of Medicine.* By Austin Flint, M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital, Medical College, Etc. Philadelphia. Henry C. Lea; New Orleans, Armand Hawkins, Medical Book Store, 196½ Canal street. 8vo., pp. 795. Price $4 50.

The fact that another work from the pen of this eminent clinical teacher is announced is a guarantee of cordial reception by the profession.

The work before us is a wonder of condensation, but the author has sacrificed thoroughness to brevity. A short terse

sentence, expressing to the writer's mind what would require a page to render plain to the student, requires too much study, and, unless this work is read in connection with more thoroughly pathological treatises, it will scarcely be appreciated.

The introductory chapter is well calculated to furnish the student with full information as to the methods of examining patients and recording cases, and the value of such preliminary teaching cannot be too highly estimated.

But to our minds the most valuable portion of the work is contained in the preliminary observations connected with the study of diseases corresponding with the different physiological systems. The value of each symptom is carefully analysed.

That portion of the work referring to the treatment of diseases is, as will be expected, essentially modern and complete, though given too much after the style of aphorisms.

The index is elaborate, and the volume is published in good style.

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*Reports to the St. Louis Medical Society on Yellow Fever; consisting of the Report of the Committee appointed to Inquire into the Relations of the Epidemic of* 1878 *to the City of St. Louis, and a Report on the Meteorological Conditions and Etiology of Yellow Fever, and of certain other diseases associated with a high temperature, and on the Treatment of Yellow Fever.* By W. Hutson Ford, A.M., M.D., formerly Professor of Physiology, New Orleans School of Medicine, etc. 8vo., pp. 327. St. Louis: Geo. O. Rumbold & Co., 1879.

The first of these reports was prepared by a committee consisting of Drs. W. Hutson Ford, Walter Wyman, and F. J. Lutz. The points which they took under consideration were as follows:

I. Cases of yellow fever developed in St. Louis in persons coming to this city from Southern cities, where the disease was prevailing.

II. Cases of yellow fever treated at the Quarantine Hospital.

III. Cases of yellow fever arising in St. Louis, its suburbs, at Quarantine, and on board the Quarantine transport steamer, Edwardsville, by contagion from cases developed in persons from points at the South, where yellow fever was epidemic.

IV. Cases either of yellow fever, or closely simulating that disease, arising in St. Louis and its suburbs without known contact with other cases, or where no such contact existed.

V. Classification and summary of all cases of yellow fever occurring in St. Louis and its vicinity in 1878.

The following are the conclusions arrived at by the committee, respecting yellow fever in general and the diseases as affected by the local conditions of St. Louis.

1st. Yellow fever may be acquired in St. Louis, by contact with persons sick with that disease, and with the apparel of persons who have been in contact with the sick; by entrance into the holds or apartments of steamers, or by communication with their cargoes.

2d. Yellow fever, or at least an equally fatal disease in no way distinguishable from yellow fever, and like it, contagious, (Miss Enwright from the person of her mother,) may be generated *in loco* by bad sanitary conditions in this city and its suburbs.

3d. The population of St. Louis does not acquire the capacity of receiving yellow fever, until late in the season, viz., the end of September and month of October, in the great majority of cases.

4th. Individuals weakened by disease, and especially the subjects of malarial fever, evince the greatest readiness to acquire yellow fever by contagion.

5th. A sort of hybrid fever, characterized by intense and often repeated rigors, analogous to break-bone fever (Dengue), may be acquired in St. Louis by contact with places or things which have been in relation with persons sick of yellow fever.

6th. For the prevention of yellow fever in St. Louis, the most rigid quarantine possible should be established, with reference to cities in which yellow fever may appear, to be maintained until the month of November, or a permanent decline of the weekly mean temperature to 40°.

7th. Subjects of yellow fever at quarantine, should be segregated there, and served by a special corps of attendants, who should not come in contact with any other patients.

8th. No disturbance of the soil, or rectification of drainage, should ever be practiced in the presence of yellow fever.

9th. The subjects of yellow fever should, if practicable, be promptly removed from the city and taken to quarantine.

10th. All sanitary measures relating to the abatement of nuisances capable of causing disease, should be instituted and completed before the month of July.

11th. The cardinal property of yellow fever, so far as St. Louis is capable of being invaded by the disease, which has now been unfortunately proved, though on a very limited scale, is its indisputable contagiousness; but inasmuch as an acceptance of this contagion implies a certain receptivity previously wrought by meteorological influences in conjunction with the effluvia of putrefaction, still greater attention than ever should

be paid to matters of drainage and general sanitation. Such action will constitute a safeguard to the public health, we are assured, more reliable than even a rigid quarantine, while in numberless other ways, it will conduce to the welfare of our city. All of which is respectfully submitted.

As regards the above propositions, we would remark upon the second, that the description of the cases of Mrs. Enwright and her daughter is not conclusive to our mind that they died of yellow fever; besides, the daughter died forty days after the mother in a house a square and a half distant. The third finding is based on observation of a single year, and is not worth mentioning as a scientific conclusion.

As to the fifth conclusion, it is to be regretted that the committee fail of elucidating the peculiarities of the people or of the climate of St. Louis, which could account for so remarkable a hybrid production. All the conclusions, particularly those just referred to, and the 11th, afford a striking example of drawing dogmatic inferences from slender data, inasmuch as the total number of cases of yellow fever at St. Louis in 1878 was 151, and confirm an observation of the late Warren Stone —that doctors who have gone through a single epidemic think they know all about yellow fever, but lose their conceit, the more they see of the disease.

The second part of the volume is contributed solely by Dr. Ford, of which 130 pages are devoted to the etiology of the disease. The following quotation affords a fair illustration of his views, which, however, lack the merit of originality:

Yellow fever is caused in the first instance, whenever it appears, by the emanations from putrefying animal matters, more especially the urine and fæces of man and animals, and is propagated by its own materies contagiosa.

* The cities of warm regions near the sea level are especially liable to yellow fever, and as they are in continual communication with each other by land or water, all such cities must be regarded as a single compound centre of civilization, with necessary relations to each other, and constant transference of inhabitants.

* * * * * * *

Nevertheless the fundamental origin of yellow fever, in the submission of the human body at abnormally high and long

* Why, then, has yellow fever never appeared on the shores of the Indian ocean?

continued degrees of heat and atmospheric humidity, to the influences of the effluvia of putrefaction, is to be unconditionally accepted, and no paradox whatever is implied in the assertion that a given case or outbreak may have been due, either to sceptic effluvia, or to the materies contagiosa.

It has never been asserted by the advocates of the above notions that tropical America, particularly along its Atlantic and Gulf coasts, possesses any monopoly of the special insanitary conditions named; nor has it been explained by these philosophers why yellow fever never appears along the eastern shores of Africa, the southern and eastern shores of Asia, nor the islands of the Indian and Pacific oceans.

The book closes with about 40 pages devoted to the Theory and Practice of the Administration of Veratrum Viride in Yellow Fever. The result of the use of this remedy he declares to be "A reduction of the mortality to one-third, or even less than this, of what is usual in other modes of practice." The volume closes with these words: "In my opinion, the intelligent employment of veratrum viride is the only method of medication which in appropriate cases is entitled to rank as the *rational treatment of fever*." The reader is requested to make his own comments. S. S. H.

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*Student's Pocket Medical Lexicon; giving the correct pronunciation and definition of all words and terms in general use in medicine and the collateral sciences, the pronunciation being plainly represented in the American phonetic alphabet. With an appendix, containing a list of poisons and their antidotes, abbreviations used in prescriptions, and a metric scale of doses.* By Elias Longley, author of a "Pronouncing Vocabulary of Geographical and Personal Names," etc. 18mo., pp. 303. Philadelphia: Lindsay & Blakiston, 1879. [From Armand Hawkins, 196½ Canal street.]

The peculiarity of this lexicon is the phonetic alphabet, which is used to represent the pronunciation of all words but those of which there can be no doubt. Twenty new characters are used, while *c*, *q* and *x* are omitted from this alphabet, as being redundant, and thus the forty-three elementary sounds of our language are represented, each by its own character. The system is easily mastered by a little study, and is then more convenient than any other. There can be no doubt

that the general use of this alphabet, the additional letters of which bear a close resemblance to our Roman characters of kindred significance, would greatly facilitate children in learning to read and spell our difficult language, and would at the same time contribute much to rendering its orthography and pronunciation fixed and uniform. The principal disadvantage would be a partial concealment of the derivation of words, by deviation from their original orthography, but this would be of no consequence to those ignorant of the original languages, while those familiar with them would easily overcome such difficulties.

Words derived from the Greek and Latin are pronounced according to the general rules of the English language, in preference to the Continental style, following the custom which prevails at Oxford and Harvard.

The definitions are necessarily extremely concise, and no attempt is made to show the derivation of words.

Some important words are omitted: for instance Hypertrophy and Phthisis; a few are pronounced not in accordance with the best authorities. But these imperfections do not destroy the general usefulness of the work and can easily be corrected in another edition.

On the whole we regard the little volume as highly convenient and meritorious. S. S. H.

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*Winter and its Dangers.* By Hamilton Osgood, M. D., of editorial staff of the Boston Medical and Surgical Journal. 16 mo., pp. 160. Philadelphia: Lindsay & Blakiston. 1879. (Sold by Armand Hawkins, 196½ Canal street, New Orleans.)

This is No. VI, of the series of American Health Primers, edited by W. W. Keen, M. D., intended for general readers and sold at 50 cents a volume. The ten chapters are devoted to the following subjects:

I, General Considerations; II, Dangers Arising from Errors in Dress; III, Carelessness and Ignorance in Bathing; IV, Inattention to Pulmonary Food [in other words to ventilation]; V, Danger from Overheated Air; VI, Indifference to Sunshine; VII, Sedentary Life and Neglect of Exercise; VIII, The

Dangers of School-life in Winter; IX, Winter Amusements; X, Closing Observations.

The book is full of judicious observations and advice, written in plain language, free of technicalities. Though its warnings are more suited to cold climates than to our own, with its short and mild winter, much of its instruction is applicable to Southern readers. It ought to be in every household. S. S. H.

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*Atlas of Skin Diseases.* By Louis A. Duhring, M.D., Professo of Skin Diseases in University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia; Dermatologist to the Philadelphia Hospital, etc. Parts III and IV. 4to. Philadelphia: J. B. Lippincott & Co.

We have received parts 3 and 4 of the above work, which certainly to our thinking contain the most magnificent colored illustrations ever published in this country. Part 3 contains plates of squamous eczema, erythematous and papula pustular syphiloderm, and purpura. The illustrations are drawn from life, and colored by the celebrated artist, Hermann Faber, and chromo-lithographed by Moras, of Philadelphia. Part 4 contains illustrations of vitiligo, alopecia areata, favus and eczema rubrum. A concise history of the case, giving the symptoms, diagnosis, prognosis, and results of treatment, accompanies each portrait. The work is to be completed in 8–10 parts, at $2 50 per part.

For some reason parts 1 and 2 have not yet been received by us.

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*First Step in Chemical Principles. An Introduction to Modern Chemistry, Intended Especially for Beginners.* By Henry Leffmann, M.D., Lecturer on Toxicology, Summer School, Jefferson Medical College, etc. 16mo., pp. 52. Philadelphia: Edward Stern & Co., 1879.

This little volume contains the substance of the author's lectures delivered for several years past to the quiz-classes at Jefferson Medical College. Medical students generally have more difficulty with chemistry than with any other branch taught by lectures, owing to their previous ignorance of the principles of the science. A careful study of this volume previous to the lecture course would mainly supply the defect, and such we conceive to be its proper use. S. S. H.

## Meteorological Summary—October, 1879.

### Station—New Orleans.

| Date. | Daily Mean Barometer | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. | General Items. |
|---|---|---|---|---|---|---|
| 1 | 30.13 | 79.2 | 83.3 | East. | .00 | Highest Barometer, 30.343, on 24th. |
| 2 | 30.11 | 79 5 | 81.7 | East. | .02 | Lowest Barometer, 29.732, on 16th. |
| 3 | 30.09 | 80.0 | 73.7 | East. | .00 | Monthly Range of Barometer, 0.611 in. |
| 4 | 30.02 | 80.5 | 69.0 | East. | .00 | Highest Temperature, 86° on 2d. |
| 5 | 29.91 | 78.0 | 75.7 | N. E. | .13 | Lowest Temperature, 50° on 25th. |
| 6 | 29 81 | 74.7 | 78.0 | North. | .05 | Monthly Range of Temperature, 36°. |
| 7 | 29.94 | 76.2 | 85.0 | N W. | .05 | Greatest Daily Range of Temperature, 16° on 29th and 30 h. |
| 8 | 30 05 | 78.0 | 86.7 | East. | .11 | |
| 9 | 30.08 | 79.2 | 81.7 | East. | 00 | Least Daily Range of Temp.,7° on 26th |
| 10 | 30.07 | 79.2 | 76.3 | East. | .00 | Mean of Maximum Temperatures, 77.6° |
| 11 | 30.01 | 79.0 | 73.3 | N. E. | 02 | Mean of Minimum Temperatures, 65.4° |
| 12 | 30.04 | 79.0 | 75.0 | N. E. | .00 | Mean Daily Range of Temp., 12.2°. |
| 13 | 30.05 | 77.2 | 75.0 | N. E. | .00 | Prevailing Direction of Wind, North. |
| 14 | 30 00 | 77.2 | 72.7 | N. E. | .00 | Total Movement of Wind, 6,762 miles. |
| 15 | 29.85 | 74.2 | 83.0 | N. E. | .17 | Highest Velocity of Wind and Direction, 29 miles, East, on 26th. |
| 16 | 29.82 | 76 7 | 77.7 | N. W. | .01 | |
| 17 | 30.01 | 77.5 | 66.3 | North | .01 | Number of Foggy Days, 0. |
| 18 | 30.08 | 71.0 | 51.3 | North | .00 | Number of Clear Days, 9. |
| 19 | 30.07 | 67.7 | 48.7 | North | .00 | Number of Fair Days, 10 |
| 20 | 30.01 | 65.0 | 75.0 | North | .00 | Number of Cloudy days on which no Rain fell, 6. |
| 21 | 30.00 | 70.2 | 83.0 | North | .00 | |
| 22 | 30.06 | 71.5 | 81.0 | N. E. | .00 | Number of Cloudy Days on which Rain fell, 11. |
| 23 | 30.22 | 70.2 | 64 0 | North | 00 | |
| 24 | 30 31 | 58.5 | 35.3 | North | .00 | |
| 25 | 30.29 | 61.0 | 63 7 | East. | .00 | |
| 26 | 30.26 | 60.0 | 77.0 | East | .25 | |
| 27 | 30.11 | 62 0 | 87.0 | North | .54 | |
| 28 | 30.07 | 65.0 | 62 0 | N. W. | .00 | |
| 29 | 30.02 | 66.5 | 53.7 | N. W. | .00 | |
| 30 | 30.07 | 67.7 | 70.0 | South | .00 | |
| 31 | 30.22 | 64.5 | 70.0 | N. W. | .... | |
| Sums | | | | | | |
| Means | 30.059 | 72.4 | 72.1 | North | 1.36 | |

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871..... | | 1876 .....67.6° | |
| 1872..... | | 1877.....70.2° | |
| 1873 .....68.2° | | 1878.....70.6° | |
| 1874.....70.4° | | 1879.....72.1° | |
| 1875.....673.° | | 1880. ..... | |

COMPARATIVE PRECIPITATION.

| | | | |
|---|---|---|---|
| 1871.....inches. | | 1876.. 0.24 | inches |
| 1872..... | " | 1877 . 9.15 | " |
| 1873...1.89 | " | 1878.. 5.07 | " |
| 1874..... | " | 1879.. 1.36 | " |
| 1875..2 09 | " | 1880..... | " |

## Mortality in New Orleans from October 19th, 1879, to November 23d, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| October 26 | 3 | 6 | 16 | 0 | 1 | 96 |
| November 2 | 0 | 6 | 21 | 0 | 4 | 113 |
| November 9. | 0 | 8 | 15 | 0 | 5 | 113 |
| November 16 | 0 | 7 | 14 | 0 | 11 | 111 |
| November 23 | 0 | 3 | 14 | 0 | 4 | 89 |
| Total.... | 3 | 30 | 80 | 0 | 25 | 522 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

JANUARY, 1880.

## ORIGINAL COMMUNICATIONS.

### Prevention of Disease—Prophylaxis in Person.

By JOHN B. ELLIOTT, M.D.,

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To touch upon this subject at the present time needs no apology. The question of our ability to prevent epidemic disease has grown to be in the last two years one of national importance, and has become a matter of vital interest to the great commercial centres of the Mississippi valley and the Atlantic coast. When we realize that during the past summer at least one-third of the commonwealths of the Union were more or less apprehensive of an epidemic invasion of yellow fever, and that, thereby, their commercial highways were obstructed and their populations held ready for flight, we may form some feeble estimate of the terrible cost of such apprehensions, and by it may measure with approximate accuracy the responsibility that rests upon the shoulders of the medical profession touching the prevention of disease. The appointment of State boards of health tells that the people demand some help at the hands of the profession, while the higher creation by Congress of a National Board of Health, with powers so broad as to cause alarm through its invasion of political precedent, gives evidence that the representatives of the people feel and sympathize with the demand.

On the other hand, the work that has been done during the past year by the various medical bodies shows that the responsibility has been fully realized by them, and teaches that where means and power are given to the guardians of health they will be used with honest intent and good results.

To discuss what has been done is not, however, the purpose of this paper. The question that presses now is, what may we do for the future? The general methods in vogue for the prevention of epidemic disease are the offspring of common sense rather than of professional knowledge, and it would seem that the public have a right to expect more than this at our hands. More than this every conscientious worker in medicine must hope to bestow, or else must lose that faith in the future progress of his science which will sap the foundations of his energy and arrest endeavor.

To sum up briefly the available methods of prevention, we may class them as follows:

Prophylaxis { External { Quarantine. / Prophylaxis in Place. } Internal { Prophylaxis in Person. }

Upon the first the medical profession *is* at variance: it has at times signally succeeded; at others it has signally failed. The laity, according to their relation to the centre of infection, are divided. The populace of an infected district are apt to think that the quarantine which closes their channels of commerce is a useless imposition, while those communities in commercial neighborhood with the diseased centre regard quarantine as the only hope left them for escape. Granting, however, the theoretical efficacy of quarantine, disease will at times penetrate its lines, and the community so reached becomes its prey with no other means of protection than local sanitary measures, or prophylaxis in place. As this measure is most often resorted to after disease has made its appearance — is used to arrest rather than to prevent — its utility is in great measure lost. As a matter of fact, however, the two methods mentioned are civil rather than medical methods. Common sense dictates them, and the civil arm is quite competent to inaugurate and perfect them. The only

purely medical method is prophylaxis in person, or the use of agents that will destroy the poison of the disease in the blood before the poison destroys the person. Patients attacked by disease are sick long before they take to bed or see a physician, and the period preceding the technical sickness has long been recognized as the period of "incubation." So clearly is it accepted as a fact that disease poisons enter the system and then require time for the accomplishment of their effects, that most diseases have their definite periods of incubation assigned them, and all quarantine laws tacitly express this conviction by prescribing a time of probation for persons from infected districts. To combat and destroy disease in the person during this preliminary stage, or rather, to prevent the formation of this stage, is a problem left for the medical profession, and offers the only true medical method of preventing disease. Setting aside, at present, the nature of disease poisons, a perfect prophylatic against a given disease, is an agent that is harmless to the individual taking it, while destructive of the poison in the blood.

No argument is necessary to prove that certain chemical compounds are believed to be destructive to the poisons of epidemic diseases. The annual use of this class of compounds has enlarged to such an extent as to have generated a new branch of commerce. Vast amounts of money are annually expended in attempts to destroy the disease poisons in the streets of our cities, and the public mind has become so familiar with the fact of disinfection, as to regard its omission as a civic delinquency. The general recognition, therefore, both by the professional mind and by the mind of the laity, of true material poisons, as the causes of epidemic disease—which poisons can be met and destroyed externally to the body—leaves no ground for argument against attempts to meet and destroy those same poisons after they have entered into the body of the individual. Furthermore, it is but rational to conclude that it is a much more hopeful task to prevent the breaking down of a system by killing a poison before its work is accomplished, than to remedy at last the physiological damage which is manifested in the complete collapse of the incipient

chill and the subsequent reaction of the febrile state. Too often the period for medical aid has passed before the physician is sent for, and the blame of the fatal issue has to be borne by the practitioner who has no room for his skill. In such an issue the blame does not belong to the individual practitioner so much as it does to the profession at large, who have failed so far to furnish sufficient methods of prophylaxis in person.

To this branch of medical inquiry the present paper is a contribution, the following experiments and results being offered with the hope that they may stimulate research and lead to some results in this direction:

In 1867 and 1868, the attention of the writer was fixed by the experiments of Polli (from 1855 to 1861) upon the Sulphites and hyposulphites of the alkalies and the alkaline earths. To state briefly, from memory, in these experiments it was claimed that the sulphites administered to dogs could be detected in the tissues of the dead animal (still in the form of sulphite) twenty-four hours or more after the administration of the salt. From the known effect of sulphurous acid as an antiseptic and antizymotic, it followed naturally, from these experiments, that the use of the sulphites should be essayed with hope in that class of diseases recognized as zymotic; and Polli claimed to have achieved success in the treatment of the major exanthemata with the sulphites and hyposulphites of sodium and magnesium. It would naturally suggest itself, from these reputed successes, that if the sulphites are potent to arrest this class of diseases after the patient has become technically "sick," they would be still more potent to prevent them, provided the salts could be taken without harm to the individual.

As the results of Polli's experiments upon dogs have been controverted by subsequent experimenters, and as the success claimed by him in the treatment of zymotic diseases has not been experienced by later therapeutists, the administration of the sulphites has fallen into disuse, and they are now regarded as a class of remedies possessing valuable powers, but as inferior in any given direction to other agents at our disposal.

An opportunity was afforded the writer for testing the

powers of the sulphite of sodium, as a prophylactic, in 1876, in an epidemic of scarlet fever. In this test, the sulphite, having achieved all that could be expected of it by the most earnest advocate of its power, subsequent experiments upon men and animals were undertaken to explain the mode of its action, and account for the results. In order to present the subject in logical sequence, the chronological order of the therapeutical and physiological experiments will be reversed in stating them.

In seeking to learn the mode of action of sodium sulphite, the first question that presents itself for solution is: Does the sulphite of sodium remain in the blood as sulphite for any length of time after its absorption into the circulation?

This was claimed by Polli, while it was denied by Rabuteau; Polli, as has been stated, claiming that the sulphite could be found still as sulphite in the tissues of animals who had taken the salt. Rabuteau did not accept the results of Polli, as he could find no sulphite in the urine of patients taking sulphite (in therapeutic doses); his inference from this failure being that the sulphite was rapidly transformed into sulphate as soon as it entered the circulation.

To answer this first query, the following experiments were tried:

The first experiment was made upon a healthy dog whose estimated weight was 40 pounds. The salt used was the normal sodium sulphite, $Na_2\ SO_3,\ 7OH_2$. The reaction relied upon for the detection of the sulphite was its decomposition by nascent hydrogen liberated from hydrochloric acid (HCl.) by chemically pure zinc. The reaction may be stated as follows:

1st. $3Zn + 6HCl = 3Zn\ Cl_2 + H_6$;

and, 2nd, $Na_2\ SO_3 + H_6 = SH_2 + OH_4 + 2\ Na.OH$.

In other words, the nascent hydrogen liberates sulphide of hydrogen, and the presence of the latter is then easily demonstrated by bringing it into contact with lead acetate in solution, when lead sulphide is deposited. By this reaction, one grain of sodium sulphite can be readily detected in thirty thousand grains of water.

Before administering the sodium sulphite to the dog an ounce of blood was drawn from its hind leg and submitted to the identical chemical process intended for the blood after the administration of the salt. This was done to be assured that there was no compound in the blood that could produce the hydrogen sulphide expected from the decomposition of the sulphite.

To simplify the experiment and avoid all possible change in the blood from manipulation or contact with the air, the blood was drawn from the leg into the vessel, (a large sized glass beaker), in which the test was to be made, and a little water was added to dilute the blood. A piece of chemically pure zinc was then dropped into the blood, enough hydrochloric acid was poured in upon it to cause brisk evolution of hydrogen, and the mouth of the beaker closed with a piece of filtering paper wetted with a solution of lead acetate.

This simplification of the experiment was arrived at after one or two failures in the effort to perform the experiment in a closed vessel and to force the gas ($SH_2$) through a solution of lead acetate by bubbling.

The failures arose from the fact that the heat of the chemical reaction, together with the direct effect of the acid caused a coagulation of the albuminoid constituents of the blood and a consequent swelling up of the contents of the vessel into a frothy mass which prevented the escape of the gas. The frothy mass would pass over through the delivery tube into the solution of lead acetate and seriously complicate the results. In the simplified form the same frothy mass resulted, but before filling the large beaker the distended bubbles would burst and set the $SH_2$ free directly in the presence of the lead acetate in solution on the filtering paper closing the mouth of the beaker. In the preliminary experiment upon the blood of the dog, before the sodium sulphite was administered, no $SH_2$ was generated. No trace of lead sulphide could be seen upon the filtering paper.

Pre-assurance against this fallacy being had, thirty grains of sodium sulphite was given to the dog between two slices of fresh meat. In an half hour afterwards an ounce of blood

was drawn from the hind leg and immediately submitted to the same test as the first specimen.

In this case the surface of the filtering paper became completely covered with a heavy deposit of lead sulphide. After this experiment the dog was kept confined, and six hours subsequent to the administration of the sulphite another ounce of blood was drawn and again tested with like results. The precipitate of lead sulphide was, in the second case, not so heavy as in the first, but was sufficiently heavy to be prominently visible. These results support the conclusions of Polli, and warrant the conclusion that the sulphite of sodium remained still as sulphite in the blood of the dog six hours after its administration.

The second experiment was tried upon a robust and healthy man, who submitted himself for the trial, A. J. Short, 27 years of age; weight, 166 pounds; height, 5 feet, 7 inches. As in the former experiment, a half ounce of blood was drawn by means of cups from the left shoulder, and submitted to the test of Hcl. and Zn. before the administration of the sulphite, and with the same negative result. Upon the prepared filtering paper there was no trace of lead sulphide. Twenty grains of sodium sulphite was then administered in aqueous solution. Estimating that the body of the patient contained 12 pounds of blood, the quantity of sulphite administered would give a solution in the blood of 1-4200. An half hour after the sulphite was administered, a second half ounce of blood was drawn from the same shoulder and immediately submitted to the same test. A plentiful precipitate of lead sulphide was formed upon the filtering paper. Four hours after the administration of the sulphite, a third half ounce of blood was drawn from the same shoulder and tested, when a clearly perceptible precipitate of lead sulphide was formed.

As a fallacy might underlie the above experiment in the fact that hydrochloric acid will liberate hydrogen sulphide from a *sulphide;* an experiment was tried to cover this point. A patient suffering from chronic bronchitis was given 20 grains of sodium sulphite and in fifteen minutes a half ounce of blood was drawn and tested with hydrochloric without the addition

of zinc, no sulphide was formed. The same blood was then tested with the zinc and hydrochloric acid and a copious precipitate of sulphide formed.

A second experiment was performed (in this case) six hours after the administration of the sulphite when no sulphite could be found.

This series of experiments serves to show that sodium sulphite remains as sulphite in the blood of man somewhat longer than four hours, but not so long as six hours, after the administration of a 20 grain dose.

An experiment was also tried after the method of Rabuteau in order to test the action of the sulphite of sodium upon the processes of combustion in the body, and also to note the effect upon the quantity of sulphate in the urine. A young physician kindly offered himself for this experiment. The direct object of the experiment, was to determine, 1st, the effect upon the quantity of urine excreted; 2d, the effect upon the urea excreted; 3d, the effect upon the sulphates in the urine.

In order to arrive at a normal mean of these excreta the patient was placed upon a regulated diet, containing but little nitrogenous food, and the urine for each twenty-four hours was carefully collected and measured for four days before the administration of the sulphite was begun. The results of this preliminary test were as follows:

| Days. | Urine in grains. | Urea in grains. |
|---|---|---|
| 1st day | 16403 | 293.76 |
| 2d day | 14492 | 273.81 |
| 3d day | 13669 | 285.04 |
| 4th day | 23694 | 364.60 |
| Mean | 17064.5 | 304.3 |

The experiment was performed in May. The weather from the beginning of the experiment continued increasing in warmth until the third day, as is well indicated by the diminishing quantity of urine. On the third day there was a sudden change to very cool weather. Means were not available for the careful measurement of the sulphates by proper drying and weighing. They could only be approximately esti-

mated by precipitation with barium chloride, filtering, washing and air drying. As this could give only approximate results, the record is not entered, as the temperature of the day and the aqueous vapor present made the results vary.

On the fifth day the patient began taking 20 grains of sodium sulphite in aqueous solution three times a day. The urine was collected and tested as upon the previous days; the diet being the same as during the first four days:

| Days. | Urine in grains. | Urea in grains. |
|---|---|---|
| 5th day | 14581. | 293.83 |
| 6th day | 8201. | 232.70 |
| 7th day | 10024. | 268.53 |
| 8th day | 11391. | 255.53 |
| 9th day | 16759. | 295.29 |
| Mean | 12191. | 269.17 |

The sulphites were estimated as in the first period and were largely increased—apparently doubled. On the fifth day there was a warm change in the weather, and on the sixth day the weather was very warm, as the urine and urea indicate. The urine was collected on the two days following the 9th, the diet being continued, but the sulphite stopped.

| Days. | Urine in grains. | Urea in grains. |
|---|---|---|
| 10th day | 8657 | 202.00 |
| 11th day | 7746 | 187.34 |

The eleventh day was noted as weather hot, temperature F. 87°.

A comparison of the two periods gives the following:

| | Urine. | Urea. |
|---|---|---|
| 1st period | 17064.5 | 304.30 |
| 2d period | 12101.6 | 269.17 |

The comparison of the means for the two periods shows diminution of urine and urea for the period of medication. A careful comparison of the tables, with the notes of temperature of the dates, will show, however, that the weather seems to have had a greater effect than the sulphite. The excess of

urine in the first period is due to the cool change on the fourth day, while during the period of medication the quantity of urine and urea increased from the sixth day to the ninth. The results are rather negative in regard to the excretion of urine and urea, while the sulphates were, as above stated, apparently nearly doubled.

During the period of medication, the urine was tested for sodium sulphite, but none could be detected. This accords with the experience of M. Rabuteau when therapeutic doses were administered.

The inferences to be drawn from the above series of experiments are the following:

1st, Experiments on man. The sulphite of sodium can be detected in the blood as sulphite four hours after the administration of a twenty grain dose.

2d, Upon its entrance into the circulation, it begins to undergo oxidation to sulphate, which process is apparently completed before the lapse of six hours after the administration of a twenty grain dose.

3d. The sulphites in the urine, are largely increased during the administration of sodium sulphite.

4th. The effect of the salt upon the excretion of urine and urea cannot be pronounced from the single experiment tried.

From the fact that it is an alkaline salt it may be judged that it would slightly diminish combustion upon long continued use. From practical experience, to be submitted immediately, I feel safe in the assertion that its continued use in therapeutic doses does no harm to the individual.

The therapeutical experiment was tried in the fall and winter of 1876, and was undertaken from a conviction of the soundness of Polli's views in regard to the sulphites. The following is a brief outline of the experience:

The epidemic which afforded the opportunity occurred at Sewanee, Tenn., the site of the University of the South. Sewanee is a town that has grown up around the University, and has a population of about eight hundred souls. Added to this population of residents are the University students, about

two hundred in number. A portion of these students are young boys from ten to twelve years of age, attending the grammar school attached to the University. Sewanee is situated upon the Cumberland table land in middle Tennessee, at an elevation of 2000 feet above the sea.

In August, 1876, a case of measles appeared in the person of a servant girl attached as a nurse to one of the resident families. This girl had come from a neighboring town where measles prevailed, and developed the disease one week after she had reached the mountains. The case was fully developed when first seen, and her condition was considered too critical to warrant removal. In a few days all of the children she had been attending, four in number, developed the disease. They were all placed upon sodium sulphite, 7.5 grains three times a day, and little other treatment adopted. The same dose of the sulphite was given to each child, (aged from two to eight years), irrespective of age, and the cases were milder as the age of the patient was less, or as the ratio of the dose to the age increased. The house was quarantined and no further spread occurred. Being in constant contact with my own children, (four in number, from infancy to six years of age), and my residence being just opposite to the infected house, my own children were put upon the sulphite in the same doses. This was the first essay at prophylaxis in person.

About two weeks after this I was summoned to a family in the centre of the community to see two children who had been suffering for some days from the enlargement of all the glands about the throat, accompanied with persistent stiffness of the muscles of the neck. Neither of these children had been sick enough to go to bed or even to be much noticed by those about them. No suspicion of serious disease was entertained. In a few days, however, a summons came to see a case in a neighboring family, and another case in the family of the children with enlarged glands.

Both patients (children) had high fever, and from the fact that measles had already appeared in the community it was expected that these cases would develop as such. The appear-

ance of the eruption, however, accompanied with severe anginose affections showed that a formidable type of scarlet fever had to be dealt with. No history of the infection could be traced.

As soon as fully satisfied of the nature of the disease, an attempt at arrest by prophylaxis in person was determined upon. The conviction was forced that isolation of the houses alone could not prevent the spread of the disease, as there were ten children in the two families who had never had scarlet fever and had already been exposed to infection. There were besides many young people in the neighboring houses who had never had scarlet fever. The children in both of these houses, and also all the young persons and children in the neighborhood were put upon the sulphite in doses from seven to ten grains three times a day. The two sick children were treated with the same salt in double doses, and the following was also used:

℞ Potass. Chlorat, ʒii
Acid. Hydrochlor, gtt. xx
Glycerine, ʒii
Aquæ, ʒxii
℥ S. Dessertspoonful every 4 hours.*

Both of the cases made good recoveries, and although the children of the respective families were not altogether excluded from the rooms of the patients, no other cases occurred in either family or in the neighborhood.

After this outbreak the disease disappeared for some weeks, and the hope was entertained that the epidemic had been stamped out, when a summons came for me to see a sick child in a family one mile distant from the houses where the last cases had occurred. A child was found sick with a violent case of scarlet fever, the eruption being well out and the case fully developed.

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*[This prescription was essayed from the great benefit derived from its use by Dr. Baruch, of South Carolina, in an epidemic of diphtheria. It is a modification of the formula of Watson. When the chlorate of potassium is rubbed up in a mortar and the hydrochloric acid added, decomposition takes place with the solution of the *euchlorine* of Davy, now known to be free chlorine and per-oxide of chlorine ($ClO_2$). The glycerine and water are added quickly while rubbing. The above formula and mode of preparation were found very efficacious. A more complete decomposition would take place by using one drachm of the chlorate to one half drachm of hydrochloric acid, but a smaller dose should then be given.]

No connection could be traced between this and the former cases.

The sick child was put upon the sulphite and the *per-oxide* of chlorine mixture. The only other child in the family was put upon the sulphite of sodium. Two days elapsed before any effect of the medication could be noticed in the sick child, then it began to improve, and afterwards rapidly recovered. The other child, although always in the sick room, escaped infection, while a child from a neighboring family, not taking sulphite, and who had been in the sick room, contracted the disease. The children in the family of this second case, (three in number), were put upon the sulphite and all escaped.

The next case appeared in the body of the town among children who were not taking the sulphite. Later in the epidemic a case occurred in a house near my own, in the person of a young girl who had taken no sulphite. In the same house were five children who had never taken the disease; they were all put upon the sulphite and all escaped. In my own house a case occurred in a young lady who was not taking sulphite; the case was severe; all of my own children who were taking the sulphite escaped, although some of them had access to the sick room. The above enumerated cases are the only ones around whom the opportunity for a trial of prophylaxis was afforded. In reviewing the many cases attended through the epidemic, no one is on record in which the disease was contracted while the sulphite was being taken. The fact that in six different families, aggregating, exclusive of the patients, twenty-three children, the disease was checked with the first case, and that outside of these families none others who were taking the sulphite contracted the disease, seems to point strongly to one conclusion. Whether these results we mere coincidences, or true effects of an efficient cause, remains to be proved by still further trial. The experience was sufficiently invariable to impress upon the mind of the writer the conviction of the relation of cause and effect between the sulphite and exemption from disease. In addition to the recovery of the cases treated through the epidemic, some of which were of the severest form, in no

case was there a single after effect of disease noticed. The recoveries were rapid and convalescence was complete.

It is well to add that in severe cases where the patients were not seen before the third or fourth day, it was some time before any beneficial effects from the sulphites could be noticed, and the certainty was felt that if the experience afforded by these cases had been relied upon for a judgment of the efficacy of the sulphite, great doubts would have been entertained as to its usefulness. This experience *during* the disease has probably caused the discredit that has fallen upon the sulphites. The value of the remedy lies in its power to *prevent*. Just as it will under ordinary atmospheric conditions arrest the process of fermentation by checking the propagation of the organisms which produce that transformation, so in the blood of the animal body, where it still remains as sulphite, the conviction is entertained that it can with equal certainty arrest the propagation of some disease poisons.

When we pass from the particular diseases considered to speculate upon the further usefulness of the sulphites in other forms of epidemic diseases, we pass into a field of conjecture where nothing can be determined save by experiment.

Believing that epidemic diseases are caused by the propagation in the blood of living organisms, it is still a natural conclusion that as these organisms undoubtedly differ, so must they stand in different relations to a given antizymotic. Because a given remedy will arrest the development of one species of germ, we have no valid ground for asserting *a priori* that it will arrest the development of all others. These details must ever remain a matter to be determined by experience. Some interesting notes have been received of experiments with the sulphite during the past two years in yellow fever, but the collection of written data is not yet sufficient to warrant the publication of the favorable notes so far received.

As to the quantity of the sulphite to be taken in experimental prophylaxis, the following considerations will serve as a guide. In the practical experiments in prophylaxis essayed in the epidemic cited above, seven and a half grains of the sul-

phite of sodium was given three times a day to children under ten years of age. This, in the blood of a child of fifty pounds weight would give a solution of about 1-3500, with a steadily diminishing strength of the solution through four hours. This amount was given to my own children for two months consecutively and with a short interval continued through another month with no bad effect and with some supposed benefit to their general health. For adults the corresponding dose would be about twenty grains or more. From such experimental data as are recorded of the effects of sulphurous acid upon low forms of life, it would seem that one large dose would be more efficacious than repeated small ones. One large dose once a day would render the blood, at least once in the twenty-four hours, less fitted for the development of low orders of organisms. Twenty grains morning and night could be safely essayed by an adult under the eye of a physician, and would be a legitimate test of the sodium sulphite as a prophylactic in any given epidemic. Any evil effects of the remedy would be slow, and would probably be evidenced by some loss of the red globules of the blood. This could be easily remedied by some ferruginous preparation.

## On the Treatment of Fractures of the Clavicle and of Acute Orchitis.

By L. A. DUGAS, M.D., L.L.D.,

Professor of Surgery in the Medical College of Georgia.

### FRACTURES OF THE CLAVICLE TREATED WITH A SLING BANDAGE AND WITHOUT AXILLARY PAD.

There is no fracture for the treatment of which so many plans have been devised as that of the clavicle, and yet it is of all fractures that which is most easily, and I may say, successfully managed. The complicated system of bandaging with axillary pad, proposed by Desault, was in vogue for a long time, and has been gradually superseded by simpler means of various degrees of merit. The writer was among the first who took a stand against the axillary pad as not only absurd, but

positively injurious. Its pressure upon the nerves and blood vessels of the arm, whenever applied so firmly as to accomplish the purpose in view, must always render it intolerable and consequently impracticable. The patient will not rest until he has relieved himself from the pressure of the axillary pad, and therefore made the whole apparatus worthless. Hence it is that any plan of treatment which includes the axillary pad must fail to accomplish the desired result. One trial of Desault's apparatus by the writer in the early days of his professional career satisfied him of its defects, and led him to devise a plan by which the shoulder might be forced upwards, backwards and outwards, and maintained in that position without serious inconvenience to the patient. Without dwelling upon the sling bandages suggested by others, I will proceed to describe the one I have long been in the habit of using.

After carefully reducing the displacement of the fragments, by bringing the elbow of the injured side against the thorax and forcing it up so as to carry the shoulder upwards, backwards and outwards, and also acting if necessary upon the fragments directly, the next step will be to secure the limb in this position. For this purpose procure a square yard of unbleached shirting (this being softer than bleached fabrics), and cut it diagonally in two so as to obtain a triangular bit, to the acute angles of which should be sewed strips of the same material three inches wide and from two to four yards long, according to the size of the patient. Apply the middle of the base, or long side of the triangle, beneath the elbow as it rests against the chest, having a margin of about four inches behind, and carry the obtuse angle towards the fingers. One of the acute angles, with its strip, will now be carried between the arm and chest, up to the fractured clavicle, around the back of the neck, over the sound shoulder in front, and beneath the axilla, and finally around the chest, including the arm just above the elbow. The other end of the strip should be then carried in front of the forearm, up to the sound shoulder, behind and beneath the axilla, and around the chest and arm, so as to meet its fellow and be tied to it. Finally, the margin left projecting behind the elbow, should then be cleva-

ted, doubled and so secured with stitches, as to prevent the elbow from sliding out of the sling in that direction. The portion of the triangle situated along the forearm should be also folded around it, and thus secured. Lastly, the strips encircling the chest and arm should be stitched to prevent their upwards or downwards displacement. If it be necessary to press down one of the fragments, this can be effectually done by interposing a small pad or compass between the bone and the bandage which passes over it. It is scarcely necessary to add that the precise order in which the roller bandage is applied may be varied to suit the views of the surgeon.

The advantages of this bandage are to be found in its perfect adaptation to the necessities of the case, in its great simplicity, in the facility with which it may be made secure, and in the very slight inconvenience to which it subjects the patient. Children as well as adults bear it without a murmur, and if it becomes necessary for the purpose of cleanliness, to remove it, any intelligent mother or nurse may re-apply it if the physician be not accessible. While it cannot be denied that under any plan of treatment, there may occasionally remain some unevenness or deformity at the seat of fracture, I must say that I have rarely seen anything of the kind in cases treated on this plan, notwithstanding the fact that I have, not unfrequently, after applying the bandage over in presence of the mother, left the subsequent management entirely to herself. (See Southern Medical and Surgical Journal for July, 1852, page 75.)

## ACUTE ORCHITIS TREATED WITH THE ROLLER BANDAGE.

Gonorrhœal orchitis is so common an affection and one attended with so much pain that any treatment that allays the pain should be considered a boon by the profession. It is well known that when treated with fomentations and poultices, hot or cold, leeching, etc., the subsidence of the tumefaction is very slow and the suffering of the patient correspondingly great. The pain is evidenty occasioned by the destention to which the tissues are subjected, and can therefore be relieved

only by lessening or overcoming this tension more or less completely. The object of this paper is not to pass in review the various plans of treatment proposed, and more or less generally practiced, but simply to direct attention to what I conceive to be the *best* plan. Compression in some way or other in the treatment of orchitis is not new, but is more or less effectual according to the way in which it is done. If attempted by means of adhesive plaster the inconvenience of its use more than counterbalances its advantages. The scrotum must be shaved (no easy matter), and the plaster taken off and replaced at least once a day. This is quite painful in consequence of the chafing and pulling of the skin. The roller bandage is not amenable to any of these objections. The writer provides a bandage of bleached shirting an inch wide and four (4) yards long, which is to be imbued with starch just before being applied. The patient lying upon his back, with his knees separated, the surgeon should seize the affected gland with the left hand in such a way that the neck of the tumor will be firmly encircled by the thumb and index finger. This puts the skin of the scrotum on the stretch and allows the roller bandage to be passed around the neck of the tumor three or four times and then over the tumor itself in such a manner as to affect its uniform compression. This procedure must necessarily be left to the skill of the surgeon. As soon as the bandaging has been completed the patient will express himself as completely relieved from pain. The patient should be kept in bed, and if possible, have the bandage re-applied morning and night, as it will usually be then very loose in consequence of the subsidence of the tumefaction. No other treatment is needed, and in a few days the swelling will be entirely removed, but the bandage should be continued a little longer in order to prevent a relapse.

The simplicity and efficacy of this plan of treatment should recommend it to the general practitioner.

Augusta, Ga., November, 1879.

# Proceedings of the New Orleans Medical and Surgical Association.

## ANNUAL ORATION, DECEMBER 1, 1879.

By WM. P. BREWER, M.D.

*Mr. President and Gentlemen:*

On this, the sixth anniversary of our association, I know of no subject which could prove more interesting or entertaining than a short review of its history during the past few years. Six years ago a small number of the younger physicians of the city of New Orleans, feeling the necessity of concert of action on the part of the working members of the profession, for our mutual interest and advancement, proposed the formation of an association where we could regularly meet for the purpose of discussing all subjects pertaining to medicine and surgery. With this purpose in view, we met in the office of one of our number, with Dr. Loeber in the chair. Soon an increasing roll of membership forced us to seek a more spacious room, and in consequence thereof, we met in the reception rooms of the Touro Infirmary, an out of the way place, 'tis true, for the members to reach; but, with the determination worthy of the great cause in which we had embarked, we overcame all obstacles, intent, only on the prosecution of our, to us, great work, until by the courtesy of the Faculty of the University of Louisiana, our present comfortable and central hall was tendered to, and accepted by us. And now, at the end of six years, we find an increasing roll forces us to look for a yet larger and more spacious hall.

At first we labored under many disadvantages. Many wished us success, but predicted an early failure, because, forsooth, other similar organizations in this city had been unable to sustain themselves for any length of time. We had seen our predecessors break up, because of want of energy, of bickerings, and of extravagance. With such experience before us, we, in framing our Constitution and By-Laws, in the first place, avoided embodying any *Code of Ethics* for our guidance, as we well knew that those who would be governed by such *Code*, needed none; and those who would not do what is right

and proper at all times and under all circumstances, would never be governed by any *Code*. In the second place, our article on membership, which is strictly enforced, dissolves all title to membership after an absence, without sufficient excuse from three consecutive meetings; and further, any member whose turn it is to read a paper is dropped, unless he is present and reads at the appointed time.

Our rules being imperative, force one who wishes to remain a member, to perform his duty to the organization. We have our rules, and they must be obeyed. The consequence is, we have no ornamental membership to increase numbers. With "*Laboremus*" as our motto, we insist, and imperatively demand labor of one and all. Each feels that his voice on our floor is entitled to a hearing, and also feels that there is no single member so important to our organization that his place cannot be supplied; but, on the contrary, that he cannot well do without the association. We have avoided all extravagance, making our dues small, and drawing on our treasury only for the purpose of advancing the work of our body.

In the beginning our papers and discussions were not presented with that decision which at present marks our work; but, as we progress and become more interested, each and every member strives to do his utmost to sustain the organization. And, to-night, in taking a retrospective glance over the past, we find what, six years ago, was but a puny nursling, developed into a healthy and vigorous child, giving fair promise to become in the near future a strong and robust adult. The JOURNAL teems with the many able productions of the members of the association, and our minutes would prove a rich field in which to roam for medical facts and experience.

Within the past year our committees on various sanitary subjects, have labored assiduously to perform their duties in such a manner as to be of benefit to the whole community; and so highly were their reports appreciated, that the Auxiliary Sanitary Association, deeming them of special service in their great work, have had them published at their own expense, and scattered broad-cast throughout the land. Indeed, so well have our efforts in favor of public health been

appreciated, that we have received attention from distinguished sanitarians, and in our hall have listened to the views of engineers regarding that, to us, grave matter, the best means of improving the sanitary condition of this, our beautiful city. Within the past month we have been represented, and heard on the floor of the "*American Public Health Association*," through our committee. We presented a report in answer to various questions propounded by that body, and, as one of the committee, I must say that the report was most flatteringly received. It was the most thorough and complete report offered, and on all sides could be heard complimentary comments.

But while we have great cause for congratulation on the progress and standing of our association, still there is much to be done. We must strive to do our utmost to render it one of the foremost bodies of its kind, and that can only be done by the most untiring energy and perseverance on the part of each member. We must at all times bear in mind our simple motto "*Laboremus*," and keep up to it. Allow no work of this association to be published, until, after the most rigid scrutiny of the *Publishing Committee*, it is deemed worthy of the body from which it emanates.

And now, gentlemen, while uttering congratulations on account of the success already attained by this association, permit me to digress for a moment, in order to call your attention to a matter of the utmost importance to us, and that is the establishment of a "Training school for nurses." There is no single member of our profession who is not at times in need of an intelligent and thoroughly trained nurse, in whose care a patient can be placed. We all recognize the fact that oftentimes, through ignorant nurses, we lose patients, who, had they been carefully and intelligently attended, might have been saved. Now, knowing this, and feeling the necessity for a remedy, it behoves us to unite as one man, and use our utmost endeavors to carry out such plan as may have the desired effect. With grand institutions like the Charity Hospital, Hotel Dieu and Touro Infirmary, there can be no excuse for this negligence. Urge the formation of classes in these insti-

tutions, and we shall have a host of applicants for positions. Let a record be kept of each nurse, and his or her fitness, with residence, etc., to which the physician may at any time refer, and from which he may select. In times of epidemics urge benevolent associations of various kinds to demand of applicants for service under them, a certificate from the institution in which the nurse was trained, and then can we hope to see a lessening of the death-rate from *epidemic disease.* Should we do this many a life will be saved, and wherever there is disease and suffering, heartfelt thanks and prayers will ascend for those through whom such an institution was thought of and perfected.

This is no visionary scheme. The necessity has been met in New York, and we hear of the success following the introduction of such school. Is there one within hearing of my voice, who, in epidemics has not felt how inadequate his science and skill have been, when the nursing has been left to the ignorant, and alas! too frequently the brutal and drunken class, who, under the name of nurses, present themselves at such times to the various benevolent associations that require nurses for the objects of their relief.

In addition to what has already been suggested, I would advise that our efforts be directed to the publication of our proceedings in an annual volume. Not only will such volume be a work of reference to each member of this association, but with it we shall be able to make exchanges with similar organizations throughout the country, and in a short time shall have acquired a library of immense value. This can be done by subscription, and I have no doubt that each one of us will take pride in the work.

As we feel satisfied with our progress up to date, still if we pursue the above course, we may hope that our organization will continue to grow in future years according to the development it has already made, and that it will attain to that distinguished eminence and usefulness which our labor and our aspirations entitle us to believe it will do, until finally it will rank with the highest institutions of its kind in the land.

# Current Medical Literature.

## ON ARTIFICIAL FORMATION OF PERITONEAL ADHESIONS.

(*Translation.*)

Dr. Studsgaard recommends to adopt a method—at first tried by Volkmann—to open cystoic tumors located in the abdomen, but not adherent to its wall. When an abdominal tumor is of such a character that it cannot be extirpated, the treatment will consist in tapping the sack, evacuating its contents and trying to get the sack obliterated; the method may find application in abscess of the liver, echinococci, hydronephrosis, ovarian cysts, etc. The methods used hitherto to obtain this result are not satisfactory, being either dangerous or allowing the tapped cyst to refill.

In simply tapping, the sack is in most cases soon again filled with fluid; injecting iodine after tapping is often followed by suppuration and peritonitis. Leaving the canula in the sack after tapping it, suppuration sets in in course of two to three days, but the pus cannot escape, stagnates and exposes the patient to all the dangers of septicæmia. To perform laparotomy, make incision into the sack, and suturate the walls of the sack to the abdomial wall, is one of the most dangerous methods, as it is hardly possible to avoid the contents of the sack to escape into the peritoneal cavity before suturating. Comparatively safe is Récamier's method of cauterizing previous to opening the sack; this method is, however, inconvenient, in so far, that it takes a long time (from two weeks to six months) to form adhesions, and these adhesions are not always strong and reliable.

In a case of echinococcus, which Volkmann (1876) operated on according to Simon's method,—he left several canula in the sack, and found only very weak adhesions around the canula, when he made his incisions through the abdominal wall on the ninth day after the application of the canula. In the bottom of the wound, which had opened the abdominal cavity, the surface of the liver presented itself, moving at every respiration; he then filled the wound with carbolized gauze, so that the lips of the wound were kept apart, dressed it antiseptically, and on the seventh day found the entire surface of the liver attached to the wound; he cut through a thin layer of hepatic tissue and opened the sack. The patient recovered. This accidental experience, which seemed to show, that an antiseptic incision opening peritoneum could be done without incurring any danger and produce just enough irritation for the formation of solid adhesions, induced Volkmann to use the same method on another patient, also suffering from an echinococcus in the liver, and this patient also recovered.

This way of making the incision has now been tried many times and seems to be the best of all other methods, excluding all possibility of an escape of the contents of the cyst into the peritonial cavity; for safety's sake some sutures may be passed through the abdominal wall and the wall of the sack, immediately before opening the latter, in order to prevent the adhesions eventually to give way by the traction exerted upon them, as the cyst is getting emptied. In such gastrotomies and enterotomies, where the operation can be postponed for some days, the formation of adhesions may be used with advantage, suturating the stomach or the intestinum to the abdominal wall some days previous to making the incision; an escape of the contents into peritoneum would be prevented with so much greater certainty.

Dr. S. describes two cases, in which he employed this method with satisfactory results, as to the formation of strong adhesions. In the first case, where the patient was suffering from a large echinococcus hepatis, a longitudinal incision 7 centim. long was made July 13th, at the outer margin of musc. rectus through the abdominal wall and peritoneum; the liver presented itself in the opening, and the wound was filled with carbolized gauze; nine days later when the entire wound was found granulating a troiscart was plunged into the liver 5 to 6 centims. deep, however, without reaching the cyst. The wound was dressed and healing in a few days. July 30th, another incision was made in the same manner on the left musc. rectus, but neither here nor close under the right costal curvature, where a third incision was made November 5th, the cyst was reached. The wounds healed easily. A slight rising of temperature (101.3° F.) followed the incisions. The patient lost her strength gradually, the urine became albuminous, ascites increased and she died December 8, 1878. The autopsy showed that an enormous cyst containing echinococci had compressed the right kidney. Between the wall of the abdomen and the surface of the liver were found solid, tough adhesions. On the upper surface of the liver the hepatic tissue had disappeared and the very thick capsule of the cyst presented itself here.

The repeated attempts to reach the cyst are instructive as to the innocuousness of the incisions and as to the character of the adhesions resulting therefrom.

In the second case the patient (a man, 38 years of age), was suffering from a cystic degeneration of the gall-bladder. On February 25th, an incision 5 centim. long was made through the wall of the abdomen, and peritoneum and the tumor presented itself in the wound. The temperature did not rise at all. March 5th, an incision into the cyst was made and a large quantity of clear fluid escaped. The patient died April 9th of general emaciation, and the autopsy showed cancerous degeneration of several organs in the abdomen. (*Hospitals Tidende*, June 18, 1879.)

## THE RELATION OF THE STATE TO THE INDIVIDUAL, IN MATTERS PERTAINING TO SANITARY ADMINISTRATION.

By Oscar C. DeWolf, A. M., M.D., Commissioner of Health, Chicago.

[Read before the Chicago Medical Society, October 6, 1879.]

In a country like ours, where government interference with supposed personal rights is always sure to be sharply questioned, and where, happily, the enforcement of such interference is impossible, unless the public opinion of its usefulness has approached to conviction, it becomes necessary for the official to appear before that public to justify and defend his judgment and his acts. It generally happens in our neighborhood that the officer especially charged with the function of sanitary administration has received a medical education, and unless he commands the large confidence of his professional brethren, with whose labors his own come in constant contact, he will most certainly fail. The medical profession, therefore, is my public; for to it, as a body of specially educated men, should be committed the final adjustment of all questions touching the necessity or propriety of sanitary measures. Sanitary work, at best, is beset with antagonisms and obstacles of a peculiar nature, and perhaps nowhere more so than in our own city of Chicago. One generation of men have not yet passed away since our site was only known as a trading-post on the Indian frontier, and on this quagmire 500,000 people now find prosperous and salubrious homes. A few years since the burden of sanitary administration here was resting upon the shoulders of a board of health, composed of five members; in later years the responsibilities of the office have been transferred to a single individual. The commissioner of health should, and does, invite the assistance and criticism of every medical gentleman in the city; but is it too much to ask that this criticism should be something else than misrepresentation?*

*As a sample of critical statement the following facts may be of interest. The Fifth Annual Session of the American Public Health Association was held in Chicago, September 25-28, 1877. That distinguished sanitarian, Dr. Elisha Harris, of New York,—President of the Association,—in a report of the meeting, published in the *Sanitarian*, November, 1877, says, speaking of a visit to the stock-yards: "The stock-yards and flesh-food packing of that largest food depot in the world, have so accumulated the offensive and insalubrious accessories of such business, that sanitary and economical problems of enormous magnitude must be treated with masterly skill; and to this subject the health officers in attendance at the meeting gave special attention. Dr. Folsom, the keen-sighted Secretary of the Massachusetts State Board, expressed the conviction of *all* of us who have studied these matters, when, in concluding the inspection of them, he said: 'Chicago must expect frequent and fatal visitations of preventable epidemics, especially destructive to young children, so long as the present degree and kind of defilement of the atmosphere of the city continues.'"

During the year 1877 I devoted myself to procuring evidence against the parties who were thus defiling our atmosphere, I secured indictments against twenty-seven of the principal offenders, and in June, 1878, they were brought to trial before the Criminal Court of this county. Under instructions of the court the prosecution was confined entirely to the question: Are these noxious emanations from the stock-yards prejudicial to the health of our citizens? Seven representative medical gentlemen of Chicago, among them the senior editor of the journal publishing this review, Dr. W. H. Byford, testified in the most emphatic manner, and from personal observation and experience, that they were.

Filth, Disease, Crime, are well called the three furies of our age and of our civilization; and sanitary science, dealing with the individual man more than with the destiny of the race, seeks to relieve him from the immediate influence of the one, and thus to hinder the tendency toward the other. How shall it be best accomplished? An eminent school of philosophers talks of the "survival of the fittest" as the key to all progress that man attains. Says Mr. Gregg, M.P., in discussing the public Health Acts of 1875: "Sanitary science is mitigating suffering and achieving success in its warfare against disease; but, at the same time, it enables the diseased to live. It reduces the aggregate mortality by sanitary improvements and precautions, but those whom it saves from dying prematurely it preserves to propagate useless and imperfect lives." Mr. Herbert Spencer, in one of the most suggestive books of our day, says: "This conflict—the development of the individual—ensures the final attainment of the highest form of this (his) maintenance, a form in which the amount of life shall be the greatest possible, and deaths the fewest possible." By this rule the natural process of advancement is founded on limitless waste; "the growth of life is in the soil of boundless death." The man who makes his home in the tenement house, so constructed as to serve as a bell-jar over the sewer, who thereby sees the wife "cut down like the lily at noon-day, and the violet children hidden away in the valley," has learned a lesson which he may transmit to his kind as a protecting influence in the final development of the race. By this rule "the intelligent and energetic members of society, who prefer and are able to provide for themselves in all the ordinary exigencies of life," may survive; but, to the ignorant, the poor, the unfortunate, who are always with us, it says, work out your own sanitary salvation; perish or survive, as the result may be; you are worthless of yourselves, and if allowed to multiply you perpetuate helplessness and increase misery.

To secure for you, by legal enactments and by sanitary administration, healthful homes; to protect you, so far as is possible, from devastating epidemics; to insist with energy, and by legal processes, if necessary, that you *shall not*, by sottish personal habits begotten of your ignorance, nor by greed of gain, imperil your own lives and those of your neighbors, all this is declared to be "interfering with the operation of the wholesome monitory laws of nature." Let us admit, in

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On this testimony conviction was secured in every case. Now, in the face of this opinion of the distinguished experts cited by Dr. Harris, and the sworn testimony of our local physicians, a reviewer in the September number of the Chicago *Medical Journal and Examiner* deliberately puts in print and writes his initials after such a statement as this: "It is, however, to be regretted that from this gallant conflict the officials did not emerge with hands thoroughly clean;.....there is not the slightest shadow of evidence that it (Brideport odor) was dangerous to the health of the city. We have no doubt that many delicate persons have experienced an increase of suffering, in consequence of reading and hearing so much about the dangerous character of the slaughter-house gasses. For this the slaughter-houses are not so much to blame as the *ignorance or the zeal* which propagated such errors."

the first instance, that man in his structural development is the result of this law, and let us admit again that in his sanitary evolutions in course of ages—ages so long that the eye of science, watching for centuries, could discover but little movement—he might finally come to a proper recognition and observance of sanitary laws; yet we must observe that the ordinary and practical forces, which we find at work in the elevation of the moral and physical nature of man, are at war with this law. The moral law, all legal codes, the instinct and affection of the family, and the organization of society in civilized life, all proclaim the opposite principle. This principle, protecting the weak and succoring the needy, is *not* a pernicious force, tending to the degeneration of the race, but is the introduction into social order of another and a more potent element of human progress, and an ever-present protestation against the conditions of the law of natural selection as a protecting or educating force in human experience. But I only design to refer to the legal aspects of the question.

Experience and common sense alike declare that it is as much the province of government to protect its citizens, in so far as possible, from disease and death, as it is to guard them against the depredation of the lawless and criminal class. The fundamental object of all government, indeed, is to protect life and property; and it is just as essential that the citizens of large cities be protected by government against the manifold and mortal dangers of illy-ventilated tenement-house vaults, as that they should be protected against incendiaries, thieves or robbers. The poor *have* no houses to be protected by the fire department, and no property to be protected by a police department. The only property possessed by the great mass of the poor, who occupy tenement houses, is their health and ability to work, and, by their daily toil, to earn their bread. Is it not the duty of their government (for it is the people's government after all) to protect, in every proper way, that health and capacity to labor? Nor should it be forgotten that such protection operates as the protection of the rich as well, for the pestilence that begins in the hut does not stop at the threshold of wealth. Laws for the enforcement of sanitary measures are traceable for authority to what is known as the police power. What is the police power? "The acknowledged police power of a State," said Chief Justice Marshall, "extends often to the destruction of property. A nuisance may be abated; everything prejudicial to the health or morals of a city may be removed.....It is a power essential to self-preservation, and exists necessarily in every organized community." Gibbons vs. Ogden, 9 Wheaton, 589.

"The police power of the State," says Judge Redfield, "extends to the protection of the lives, limbs, health, *comfort* and quiet of all persons." Thrope vs. B. & B. R. R. Co., 27 Vt. 149.

"By this general police power of the State, persons and pro-

perty are subjected to all kinds of restraints and burdens in order to secure the general comfort, *health* and prosperity of the State. Of the perfect right in the Legislature to do which no question ever was, or, upon acknowledged principle, can be, made." Cooley's Constitutional Limitations, 327.

Judge Dillon, of the U. S. Circuit Court, in his last edition of the "Law of Municipal Corporations," says (p. 210): "Laws and ordinances relating to the comfort, health, convenience, good order, and general welfare of the inhabitants, are comprehensively styled 'Police Laws or Regulations,' and it is well settled that laws and regulations of this character, though they may disturb the enjoyment of individual rights, are not unconstitutional, *though no provision is made for compensation for such disturbance.* If the individual suffers injury, it is either *damnum absque injuria*, or, in the theory of the law, he is compensated for it by sharing in the *general* benefits which the regulations are intended and calculated to secure. The citizen owns his property absolutely, it is true;.....still he owns it subject to this restriction, namely: that it must be so used as not to injure others, and that the sovereign authority may, by police regulations, so direct the use of it that it shall not prove pernicious to his neighbors, or the citizens generally."

It would be easy to multiply these quotations. I give you the final résumé of Judge Brainard, in an address delivered before the New York Medico-Legal Society, December 5, 1877: "The limitations which some believe were set upon legislation, and which hedged about supposed private rights, are yielding to the needs of the times. This change in judicial view has now become a settled principle of judicial action. The disposition of the Court of Appeals appears in the highest court of the nation, and they show that the current of judicial ruling in this country (in administration of health laws) is contrary to the technical spirit,—the over-squeamish regard for supposed private rights." Now let us bring these laws to the test of application. And here, what encouragement and what beauty appears. How invigorating, mentally and morally, such discussion and studies are when conducted with the proper spirit. Do I misrepresent the sentiment of this society, when I say personalities have no place here? Science is knowledge—knowledge can only be perception, discovery, comprehension of truth. "All truth is akin, related in some way to every other truth or fact in the universe, and every fact casts its light upon, or has its relation with, some other fact or class of facts. The test of truth, the touchstone of scientific reasoning, is the harmony of these relations." Are these opinions of the masters of jurisprudence in accord with the needs, more, the necessities of civilized life? Taking men as we find them in our large cities—not as one would like them to be—where education and intelligence would be substituted for vice and misery, and their concomitants, disease and death—but, as they practically and

truly exist, the upright and conscientious close neighboring the vicious and lawless; are not these legal prohibitions to which I have referred, salutary and protective to the public good? And, when I avow my entire belief in them, and my acceptance of them, as the proper guide to official duty, am I to be charged with "the adoption of the entire communist programme?" Is it an attempt on my part "to justify the importation of rude, despotic methods into the quiet repose of civil life?" I must deny the imputation, while I make haste to declare that an intelligent appreciation of the ways in which filth is produced, and becomes destructive in our populous centers, *must* take cognizance of the culpable wickedness of some people, and of the responsibility of the sanitary official to meet this wickedness with all the legal machinery at his command. Without such appreciation sanitary acts are waste paper, and sanitary administration an illusion. Great Britain stands preëminent in her attention to preventive medicine, and the eminent names of Chadwick, Farr, Simon, were and are, the heralds who summon the world to answer for its profligacy of life. Her public Health Acts of 1848, the Nuisance Removal Act of 1855, the Local Government Act of 1858, the Sanitary Act of 1866, the Public Health Act of 1872, and the Public Health Act of August 11, 1875, surpass in importance any and all sanitary legislation ever before contemplated; and have completed and established on a solid foundation an efficient system of public hygiene, with 15,000 sanitary districts and the requisite number of sanitary officers. In twenty-four English cities, excluding London, with populations varying from 160,000 to 4,000, and whose average number of inhabitants is 18,000, there was an average of 24.7 deaths per thousand before the introduction of the sanitary service above contemplated. Good sewers, good water, improved water closets, with an efficient supervision of tenement houses, has reduced this death rate to 21.9, or in round numbers, three per thousand—an annual saving of 1300 human lives in a population of 430,000. The commentary by Mr. Simon on these results was that "they may serve to fulfill very important provisional use, not only to confute persons who have despaired or affected to despair of any great preventability of disease; but still more, to justify in the public eye, and to encourage in some of the noblest human labors, those who for many years have been spending their powers in this endeavor, and to whom it will be the best of rewards to see the demonstration of the good they have wrought." In eighteen years the death rate in London has been reduced from 25.0 to 21.5 per thousand. In Glascow, in a well-to-do section of the city, a death rate of 23 in 1000 in 1871, has been reduced in 1876 to 17 in 1000; in another district the death rate has been reduced from 29 to 26; in a third from 35 to 26, and in the worst district from 44

to 33, the mean reduction in that city being from 33 to 25 in five years. An annual saving of 3745 human beings. In a remarkable paper read by Mr. Edwin Chadwick, president of the Health Section, at the twenty-first annual congress of the British Social Science Association, Aberdeen, September 13, 1877, in which he reviews the result of English sanitary legislation, and what it may accomplish in the future, submits the following summary of the chief results obtained of the progress of the power of sanitation:

1. "That we have gained the power of reducing the sickness and death rates in most old cities by at least one-third.

2. "That in new districts or sites, apart from old urban sites, we may with a complete system of water supply and surface cleansing—including measures for the prevention of overcrowding—ensure reduction of death rates to less than one-half, or to a mean rate of ten in one thousand, and the sickness in like proportion.

3. "That in well-provided and well-regulated institutions for children from three to fifteen years of age, we may secure them an immunity from the common children epidemic and reduce the death rate to a mean rate of about three in a thousand, or to less by two-thirds of the death rates prevalent among children of those ages in the general population." From this norma of sanitation for the infantile stages of life, may be established conditions that go to the prevention of 50,000 deaths in the school stages of life in England and Wales.

6. "That among the general population a reduction by full one-half of the diseases of the respiratory organs, may be effected by general public sanitation."

The entire address of Mr. Chadwick may be found in the early numbers of the *Sanitarian* of 1878, and will well repay a careful perusal. It is popularly supposed that the excessive mortality in some great cities is an inevitable evil resulting from density of population. This is an error, for the concentration of preventive resources is amply able to overcome such causes of insalubrity. This is a fact fully demonstrated in London, where the death rate has steadily diminished, and the chances of human life steadily increased for the past twenty years. And this has been wholly the result of systematic sanitary improvements in domiciles, in water supply, in drainage, and in the sanitary police of that metropolis. That death rate and sickness rate *are* increased by density of population will hold true, except where special and systematic sanitary care increases, and keeps pace with the population growth; and if this be true, can there be any doubt of the duty of the State to organize by statute laws those agencies and methods which symbolize a proper concern for the life and social welfare of the citizen, and can there be any doubt of the duty imposed by good citizenship to acquiesce in and submit to such legal re-

straints of personal freedom in business enterprise, or surroundings of domicile, as shall best conserve the public comfort and well-being? Society does not submit its destinies, in any of the great affairs and events of human existence, to the doctrines of chance, nor to the philosophy or theories of evolutionists, nor to the ecstatic dreams of humanitarians and philanthropists,—useful though they may all be. In all the transactions of business life, the civil government justly demands obedience to formalities which restrain, and, if necessary coerce. Shall this function of government be limited to the protection of life, property and order, as suggested by Mr. Spencer, leaving all other social ends to be achieved by individual activities? This is not the tendency of recent practical legislation. Society demands, as of old, protection to life, property and social order; but she is emphasizing louder and louder every day another demand, namely, "the inalienable right of every human being to be supplied with uncontaminated air, water, food, soil, and personal surroundings, and the duty of the State to allow no trespass on this right from negligence, ignorance, or greed of gain." And society recognizes also the progress of medicine, which to-day declares "that the causes of many diseases, and of many deaths, can be as successfully fenced out from their human crop, as domestic animals can be fenced out from a grain crop;" and it demands that law shall recognize this progress also, and provide for it; and that as "powder and other explosives are by legal statutes stored away and guarded, so a small-pox pistule, potent with greater mischief than a magazine of dynamite, shall be for greater reasons stored away and guarded. The officer charged with the sanitary interests of a great city, under the ordinary conditions of civilized life, who permits small-pox to become epidemic in his neighborhood, has supplied the best reason in the world for his immediate displacement. If the local law does not afford an adequate basis for his personal protection, and aid in his work, and public sentiment will not sustain him in taking possession of the person and effects of those infected with small-pox, he should resign his office, placing the responsibility where it belongs; for no city *can* be protected from this loathsome pestilence, if officers of health must rest under the fatal disadvantage where any man claims the right to have small-pox in his own domicile and at his neighbor's door, or to refuse to receive for himself or his family the protecting influence of vaccination.

I pass for a moment to consider a persistent and obstinate foe, more to be dreaded than small-pox or Asiatic cholera—*scarlet fever*. It would be truly fortunate if definite and positive prophylactic means were understood, and could be applied to extinguish or control it; but because the attempt to master all the laws and causes that govern the epidemic prevalence of

this subtle infection have reached only partial results, or until that much-wished-for day shall come when an antidote is found equally effectual as that which Jenner has given the world to prevent small-pox, there can be no plainer duty than that sanitary authorities, physicians and families, should accept and enforce those measures which an enlightened professional judgment has declared to be useful in limiting the prevalence and mitigating the fatality of this pest of childhood. The result of our best means may seem to some doubtful, but the object actually aimed at is neither uncertain nor unworthy the labor it costs. Stimulated to action by the professional opinion of the leading members of all schools of medicine, that the measure was wise and judicious, this municipal government, following the State law, ordained that warning cards should be placed on every house infected with scarlet fever. The members of this society gave emphatic approval to the law, and on a memorable occasion—memorable because it was the early assertion by the profession of this city that they claimed a hearing in sanitary affairs—you demanded that the law should be executed. In obedience to this demand, and profoundly convinced of its propriety, I have assumed the responsibility which my office imposes, and have placed the cards. Let us examine for a moment the facts upon which this action of the state is based. The one fact which we do generally acknowledge in the history of scarlet fever is the fact of personal intercourse, and all that it implies, as an important factor in its propagation and diffusion. This has been denied, and will be again, still I think it an opinion very generally entertained by the profession. Now the warning card is placed, and should be regarded, as the signal of danger. It announces to the passer-by that he should avoid that domicile; it tells the mother to flee, herself and her children, from its presence; it declares to school authorities that not a child from that house should cross the threshold of the school-room; and above all, it educates the public to the proper appreciation—which is the professional appreciation—of the dangers of intercourse with the infected. I judge, therefore, that the state does well to insist upon the placing of the card, and my judgment is worth just what my facts and reasons are worth. Finally, the more closely unsanitary conditions are examined, the more extensive do their ramifications appear, and the more evident it will become that the local and public causes of many destructive diseases are daily endangering the loss of lives, which the state should protect and save by the practical application of sanitary knowledge; and it will also appear that the state alone has the adequate power by just and wise legislative acts to remove or control these causes. —*Chicago Medical Gazette*, January 5, 1880.

## INEBRIETY AND ALLIED NERVOUS DISEASES IN AMERICA.

By George M. Beard, M. D., (New York.)

Dr. Beard stated that his interest in the subject was purely scientific; that he had been led to study the subject simply because it belonged to neurology—a department of science to which his life was devoted. Inebriety he defined as a functional disease of the nervous system; the chief, though not the only, feature of which is an irresistible desire for stimulants and narcotics, such as alcoholic liquors, opium, chloral, etc. Other accompanying and preceding symptoms are mental depression, mental irritability, insomnia, tremors, hallucinations, delusions, severe neurasthenia (nervous exhaustion), and, in some cases, alcoholic trance. The disease inebriety is distinguished from the vice of drunkenness in four ways; first, by its irresistibleness; secondly, by its periodicity or intermittent character; thirdly, by its transmissiveness; and, fourthly, by the above nervous symptoms associated with it. The vice of drunkenness is objective; the disease inebriety is subjective. The disease inebriety has much the same relation to the habit of drunkenness that some forms of insanity have to eccentricity. The chief predisposing cause of inebriety is civilization. Savages, semi-savages, and barbarians drink far more than enlightened nations; and the disease inebriety is always less frequent where the habit of drinking is most common. The chief exciting causes of inebriety are alcoholic liquors, opium, chloral, etc. Another exciting cause is neurasthenia, or nervous exhaustion, particularly the form cerebrasthenia, or exhaustion of the brain. Brain-exhaustion, which follows loss of property, bereavement, or sunstroke, may excite inebriety in one who is predisposed to that disease. In America, sunstroke is quite a frequent exciting cause. Injuries to the brain, as railway accidents and the like, may excite the disease; so also may salt air; some inebriates cannot go to sea, nor near the sea coast, without suffering an attack with accompanying symptoms, such as headache, neuralgia, nervousness, etc. Inebriety is more common in America than in any other country, mainly from climatic reasons; dryness of the air, and extremes of heat and cold. For the same reason, other functional nervous diseases of the family to which inebriety belongs, such as neurasthenia, general neuralgia, and hay-fever, are more common in the northern and eastern parts of America than in the southern. Like every nervous disease of the family to which it belongs, it pretty steadily diminishes as we go south—go to the Gulf States; yet there is more total abstinence in the north than in the south. There is no country in the world where there is so much total abstinence from drinking, and, at the same time, so much inebriety, as among the people of the northern and eastern parts of the United States. The habit of drinking has been diminishing for the last half quarter of a century among the better classes, but the disease inebriety

has been increasing at the same time among the same classes. Inebriety is, to-day, treated on the same principle as other nervous diseases of the same family to which it belongs; that is, first, by keeping the patient away from the exciting causes, and, secondly, by fortifying the system with sedatives and tonics. For very many cases, asylums are indispensable, and legislation is needed, and, in America, is exercised to give power of holding such cases. The best law, on the whole, is the law of the State of Connecticut, which is very similar to the "Habitual Drunkards' Act," which has just been passed by the English Parliament. The best remedies for fortifying the system, and breaking up the habit of drinking, are bromides in very large doses (3i to 3ii), especially bromide of sodium; electricity in general, and central applications (general faradisation and central galvanisation), strychnine, quinine and cinchona, iron, cod-liver oil in emulsion, the preparations of zinc (oxide, bromide, valerianate) with warm baths. This system of treatment for opium inebriety, combined with the gradual withdrawing of the drug, has been wonderfully successful in America. The American Association for the Cure of Inebriates was organized in 1870. There are, in the United States, twenty-six asylums in practical operation, and charters for fourteen more that are yet to be built. The movement has been carried on against the opposition of all forms of ignorance and non-expertness, but is every year making progress. The *Quarterly Journal* has been in existence three years. Of those who are committed to asylums, about one-third are cured; and probably in the next century, when there shall have been greater progress made in the treatment, and patients shall come to the asylums earlier in the disease, and there shall be greater knowledge and experience in the managemenet of asylums, the results will be better. In regard to the criticisms of Dr. Buckmill, it would seem that some of his strictures are just; but they are only one side of a complex story. Asylums are not all alike, and all are imperfect; but every year they must be making progress in their management and in their theory and treatment of the disease. It was clear that Dr. Buckmill did not have any just notion of what inebriety was, nor of the distinctions between that disease and the habit of drunkenness. His ideas, also, of what asylums ought to accomplish were too high. Inebriate asylums are not specifics for inebriety, any more than insane asylums are specifics for insanity; but when they are empowered with legal authority, and wisely managed, they are the best means known for the treatment of this terrible and increasing disease. Both in asylums and out of asylums, more attention should be given to the sedative and tonic treatment above described than it has yet received. Too exclusive dependence is placed in America and Europe on the mere removal from the one exciting cause by confinement. In this respect, there is room for progress, and for careful experiments, which will soon be made.—*British Medical Journal, Aug.* 23.

## DELAUNAY ON FECUNDITY AND SEXUALITY.

M. Gaetan Delaunay, in a recent communication, states that fertility, which is unlimited in the lowest classes, decreases as the human race is approached. The inferior races are more fruitful than the superior; the black, yellow, and other races being more fertile than the white. Amongst Europeans, the Russians, Spaniards and Italians, *i. e.*, the nations which are the least advanced in civilization, are the most fertile; whilst the least fertile are those furthest advanced in the scale of evolution, viz., the French and Swiss. It has been stated that the relative sterility of France was voluntary, but M. Delaunay refutes this accusation. Fertility diminishes in a nation as it becomes more highly civilized. Intellectual persons, and those who live in towns, have a smaller number of children than the ignorant and laboring classes. The young and the old are more fertile than adults, and the same is true of the weak as opposed to the vigorous. Athletes and persons who perform much brain work have but few children, as has been shown by Dr. Drysdale. The lower tissues reproduce themselves more readily than the higher ones. A plant or animal which receives too great a supply of food becomes infertile. Thus, dogs belonging to the poor produce more offspring than others of the same race which belong to the richer class. The wretched and badly fed are more fruitful than the wealthier, and, therefore, fertility has no relation to the means of livelihood. Summer and warm climates increase the fertility. In short, therefore, fertility being at its maximum in those least advanced upon the path of evolution, and at its minimum in those furthest advanced in the same scale, it may be regarded as being in an inverse ratio to the evolution. *Sexuality.*—The lower races produce more females and the higher nations more males. Young and old animals bear more females than males. From the age of thirty-five onward a man begets more girls than boys. The vigorous produce boys, and the weakly girls. Under the first empire, when all adult males were serving in the wars, a very large majority of girls were born. Years of dearth favor the procreation of girls, and years of abundance of boys. Idleness tends to cause the birth of females. Persons who perform much mental labor are more liable to produce girls than boys. A majority of girls are born in summer and in warm years, and of boys in winter and cold years. In short, therefore, an individual of a less high degree of evolution produces girls, of a higher degree boys, whilst, at a still higher degree he again begets girls. In the same way, one who is fed too little or too much produces girls, boys being born when he is simply well fed. Upon this communication M. Galippe remarked that the biological law laid down by M. Delaunay was wrong, inasmuch as it was unsupported by conclusive facts. It was, moreover, entirely incorrect in regard to England, the English being certainly far advanced in the

scale of evolution, whilst they produce a large number of children.—*London Medical Record*, *August* 15.

### FLINT ON THE SOURCE OF MUSCULAR POWER.

Dr. Flint discusses the question as to whether the muscular power manifested by man and animals is the direct product of the metamorphosis of the food ingested, or is generated by changes in the muscular tissue itself. In the latter case, the muscular substance as such is destroyed, and is discharged from the body in the form of excrementitious matter, whilst the waste is repaired by food. In the case of a steam engine, the latent energy of the fuel is developed into heat by combustion, and the engine itself serves merely as a convenient mechanism for translating the heat into actual working force. In like manner, according to some physiologists, the muscles and active organs of the body are merely a convenient mechanism for translating into force the latent energy of the food which is developed during the metamorphosis of digestion and assimilation. In opposition to this theory, Dr. Flint analyses some observations made by Dr. Pavy upon Weston and other pedestrians, and shows that the estimated force value of food was sufficient to account for only a small fraction of the muscular work actually performed By a further analysis of some observations of his own, Dr. Flint concludes that the true origin of muscular power must be sought in the muscles themselves, and that the exercise of these muscles produces a waste which is measured by the nitrogen excreted. Indirectly the nitrogenised food is a source of power by repairing waste and developing capacity for work: but food is not directly converted into force in the living body, nor is it a source of muscular power, except that it maintains the muscular system in a condition for work.—*London Medical Record*, *August* 15.

### METRORRHAGIA AND ITS TREATMENT BY PLUGGING THE CERVICAL CANAL.

By Henry Bennet, M.D., The Ferns, Weybridge.

In the *Journal* for July 19th, the Paris correspondent, in reporting a discussion on the treatment of menorrhagia, which took place at the Clinical Society of Paris, presents as a novelty the proposal of M. Panas to meet severe metrorrhagia by plugging the cervical canal itself, instead of the vagina. As I have been in the habit of resorting to this treatment for above a quarter of a century, and believe that I was the first to suggest and describe it in the fourth edition of my work on *Uterine Inflammation*, published in 1861, I send a brief extract (page 422), not so much from a desire to claim the priority of what really is a most valuable addition to therapeutics, but because I wish to draw the attention of the profession to its thoroughly practical character.

"In those cases in which, as we have seen, the hæmorrhage persists after the entire removal of local disease, owing to enlargement of the uterus, to the presence of a small unrecognized polypus or uterine tumor in the cavity of the uterus and its neck, or to the mere hæmorrhagic habit, I have for many years resorted, with encouraging success, to plugging *the os uteri itself*, instead of the vagina. It occurred to me that the usual plan of filling up and distending the vagina by pieces of sponge or a handkerchief was a clumsy, painful, and inefficient mode of opposing mechanical resistance to the exit of blood from the undeveloped uterus, when its orifice could so easily be brought into sight. Acting on this idea, I have in many instances brought the cervix uteri into view, and passed inside the os two or three small pieces of cotton, tied to a piece of thread, which I wedge in firmly, covering the whole cervix with two or three larger pieces left in close contact with it on the withdrawal of the instrument. In nearly all the cases in which I have resorted to this plan, I have easily arrested the hæmorrhage. Indeed, this modification of the usual plan appears to me so simple and so consonant with common sense, that I cannot but think that it will be often adopted in severe cases. In the ordinary operation of plugging the vagina, that canal has to be distended by a large mass of sponge or linen, soaked with clotted blood, which often interferes with the functions of the bladder and rectum, is invariably a source of great discomfort to the patient, and is not always efficient. By the plan I describe, the end proposed is much more effectually compassed, with scarcely any annoyance to the patient beyond that which the use of the speculum occasions.

"Owing to the natural contractility of the cervical canal, and the pressure of fluids behind, if the cotton be not well pushed in it is soon forced out. The plug may be left without renewal twenty-four or even thirty-six hours; but, in the latter case, it is generally expelled spontaneously. A small piece of sponge may be used, and is more likely to remain *in situ* owing to its expansion; but as it must necessarily be very small, it is more likely to be permeated by blood. If sponge be used, great care should be taken to extract the piece passed into the os, to which a small piece of thread should always be tied, as the os uteri might not be able to expel it alone, owing to its mode of expansion.

"Plugging the os uteri in the way prescribed is by far the most effectual way of arresting the hæmorrhage which precedes and accompanies abortions, when, as sometimes occurs, it resists the usual treatment, and becomes alarming. The following case will illustrate this mode of treatment and its marvellous efficacy. A healthy lady, thirty-two years of age, came up from the country to consult me. She had been married twelve years, had had five living children, and subsequently four miscarriages. Each miscarriage had been at-

tended with gradually increasing hæmorrhage. On the last occasion, she nearly lost her life, and was greatly alarmed at the idea of again becoming pregnant. She presented uterine symptoms which led me to discover the existence of extensive ulcerative diseases of the cervix uteri; no doubt connected with one of her pregnancies, and the cause of the miscarriages. I cured the disease, and sent her home. A few months afterwards, she became pregnant; and, in her alarm, again came up to town to be near me, although I rather dissuaded her from the step, which I did not consider necessary. At about the termination of the third month of pregnancy, I was sent for one night with the intimation that flooding had set in. I went immediately; and, on my arrival, found the patient pale, all but pulseless, and lying in a large pool of blood. The hæmorrhage had commenced at half-past twelve; it was only two, and yet her state was alarming; the hæmorrhage was continuing profusely, and the loss had already been very considerable. I at once placed the patient on her back, to facilitate manipulation (with half a dozen candles on a table at the bottom of the bed), introduced a large conical speculum into the vagina, and, with the speculum-forceps and large pieces of sponge, rapidly cleared the speculum, which was full of clots and fluid blood up to the brim. This accomplished, I got the os uteri into view; found it rather open; from its orifice, a stream of blood was flowing as rapidly as from an open vein. I at once pushed in several pieces of cotton tied to threads, holding one down by the sound, whilst the next was being introduced, to prevent it from being washed away, and then packed firmly the upper third of the speculum with cotton around and over the cervix. Lastly, I slowly removed the speculum, forcibly supporting the cotton packing inside with the forceps to prevent its being displaced. I had the mass of blood in which she was lying removed. In the course of about twenty minutes, the color began to return to the face, and the pulse began to be more perceptible, and, in a few hours, she was nearly herself again, although very weak. There was not subsequently the slightest hæmorrhage; it was permanently checked. Twenty-four hours after, I removed the plugging, and did not reapply it. No fresh loss of blood was experienced; and the next day, after a few uterine pains, a diseased ovum was expelled. This lady afterwards rallied in a few days. After the last previous abortion, she was ill for months."

The above extract from my work (1861) gives so full and complete an account of this mode of treatment, and of the manner in which I usually carry it out, that there is very little to add. I would remark, however, that I use dry cotton only, and no styptic or caustic solution whatever. The perchloride of iron is totally uncalled for, unnecessary; for the plugging is in the cervical canal, and the hæmorrhage all but always proceeds from the

uterine cavity. The treatment is as simple as corking a bottle. If the cork be well pushed in, no water (blood) can come out; the hæmorrhage is arrested in a few minutes, and the patient rallies all but immediately. I have had many similar cases since this was written, and no longer fear hæmorrhage in the undeveloped or slightly developed uterus. The process also appears to be entirely devoid of risk or danger. I have never had a bad symptom. The same cannot be said of uterine injections. The wife of one of my colleagues at Mentone died of tetanus after the injection of perchloride of iron into the uterus, to arrest hæmorrhage in early pregnancy. She would probably have lived, had plugging of the cervical canal been resorted to as above.—*British Medical Journal*, July 26, 1879.

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### FLINT ON EXPERIMENTS UPON ANIMAL HEAT.

Dr. Flint has recently made some experiments upon himself as to the mechanism of the production of heat. In normal nutrition by food, the heat of the body must be maintained by changes which take place, either directly in the blood or indidirectly in the tissues, in the alimentary materials; and these changes involve oxidation to a very considerable extent. Under the ordinary conditions of nutrition, it is assumed that the food furnishes all the material for maintaining the heat of the body and for the development of force in work, such as the muscular work of respiration, circulation, and general muscular effort. If no food be taken for a certain time, the heat of the body must be maintained, and the work must be accomplished at the expense of the substance of the body itself, and the individual loses weight. To furnish a positive scientific basis for the views above expressed, physiologists have burned various articles of food in oxygen, and have then calculated their heat value. The results hitherto obtained from experiments based upon this method have been somewhat unsatisfactory, and the conclusions arrived at by Dr. Flint in regard to this question are as follows: It is probable that nearly all the animal heat is produced by the oxidation in the body of certain elements, which are chiefly nitrogen, carbon and hydrogen. It is probable that this oxidation does not take place entirely in the blood, but that its seat is in the substance of the various tissues, and that it is connected with the general processes of nutrition and disassimilation. Heat is thus evolved, and the final products of the chemical actions involved are mainly urea, carbonic acid, and water. It must be remembered, however, that the oxidation is not necessarily a process identical with combustion out of the body, but that it is probably connected with a series of intricate molecular changes which cease with the life of the tissues, and of which we are able to recognize only the final results, viz., calorification and certain chemical products. Recognizing the products urea, carbonic acid, and water, as representing probably the evolution of a certain

amount of heat, the heat actually produced in the body by the amount represented by the urea and carbonic acid discharged is not accounted for. If it be admitted that hydrogen is oxidised in the body, resulting in the evolution of heat and the production of water, all the heat actually manifested as heat will be accounted for, whilst an excess will be left which may be converted into force. Dr. Flint's experiment show pretty clearly that, when no food is taken, and when food being taken muscular work is performed, so that there is loss of body weight, water is actually produced in the body. This, and this only, accounts for all the heat evolved under these conditions. There is no reason to suppose that the processes involved in the production of heat are radically changed in their character when enough food and water are taken to maintain a uniform body weight. Animal heat is produced mainly by the oxidation of the nitrogen, carbon, and hydrogen of the tissues, the waste of these elements being supplied by the food. Probably the oxidation of carbon and hydrogen is a more important factor in calorification than oxidation of nitrogen; at least, it is certain that the heat value of the oxidation of carbon and hydrogen is greater than that of the oxidation of nitrogen, and the quantity of heat thus produced is very much greater. Of the two elements, carbon and hydrogen, the oxidation of which produces animal heat, the heat-value of the hydrogen is by far the greater. It is probable that there is always a certain amount of oxidation of hydrogen in the body, and that this is necessary to maintain the animal temperature; and it is almost certain that this occurs during prolonged abstinence from food, and when the production of heat is much increased by violent and protracted muscular exertion. It may be, also, that there is an active and unusal oxidation of hydrogen as well as of carbon in fevers.—*London Medical Record*, *August* 15.

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## A REBELLIOUS CASE OF VOMITING. IN GESTATION. TREATED WITH IODINE APPLIED TO THE CERVIX UTERI.

By D. M. Wick, M.D. (New Hartford, Iowa.)

On the 23d of last May, I was called to see Mrs. H———, suffering with excessive vomiting in her first pregnancy, throwing up a black grumous liquid every twenty or thirty minutes. She had been troubled thus, some six weeks—four of which, she was not able to leave her bed—vomiting quite all the nourishment taken, and consequently was very much emaciated and weak. Believing that her previous physician (who is a very intelligent and successful practitioner) had exhausted the whole list of remedies *per orem*, I concluded to try iodine to the os, using the speculum and a camel hair brush, I painted the os with tinct. of iodine.

In ten or fifteen minutes, slight contractions of womb came on and continued, at intervals, four or five hours. Ordering for

nourishment, beef tea and brandy administered by the rectum, and to slake the thirst, small pieces of ice swallowed entire, I took my leave.

Next day I found to my great surprise and pleasure, that my patient had vomited but once or twice since the application. She rested well during the night and in a few days was able to retain, in stomach, such nourishment as was given her. She made a rapid recovery and had no more nausea and vomiting.

As to just how this local treatment arrested the trouble, I am not fully satisfied; but nausea and vomiting in the earlier months of pregnancy, is, I believe, physiological; due to a reflex action of the spinal cord from the uterus to the stomach.

Now, does not the irritation, set up at mouth of womb by the application, check this reflex movement? Sometimes, simply dilating the os with the finger will allay the nausea in these cases.

I do not know how extensively local treatment to the os uteri, in these cases, has been tried: never saw but one article on the subject and that was in a foreign medical journal. Bretonneau and Cazeaux recommend ext. belladonna in ointment.

It does seem that we should hope for some form of treatment that will prevent, in extreme cases, a resort to abortions or the demise of our patients from exhaustion.—*Cincinnati Lancet and Clinic*, Aug. 30.

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SELECT FORMULÆ.—IMITATION KOUMISS.

The following is said to produce an article equal to the genuine preparation from mare's milk: Fill a strong champagne bottle with good, fresh, unboiled cow's milk to such a height that after the addition of thirty grammes (one ounce) of granulated or powdered sugar there would still be left at least an inch of empty space below the cork. Before corking, add a piece of fresh compressed yeast; a teaspoonful of good beer yeast may be taken. The contents of the bottle are well shaken, repeatedly; then the bottle is placed in the cellar, where it is turned up and down a few times during the day. From and after the fifth day the mixture is ready, and may be drunk to about the twentieth day. It is best to prepare about six bottles at a time, refilling each after it has been emptied and cleaned, so that treatment, after being begun, may not be interrupted. On opening the bottles the contents are very apt to foam over; hence the bottle should be opened while held over a plate. A good milk wine (kumys or koumiss) have a homogeneous appearance, of the consistence of thin cocoa; should be effervescent when poured out, of an acidulous, agreeably vinous odor and taste; and should not be full of lumps or taste like buttermilk. On first using koumiss it produces looseness of the bowels, but this effect soon passes off.—*Boston Journal of Chemistry*, October.

### SEA-WEED AS AN "ANTI-FAT."

The use of the variety of sea-weed botanically known as *Fucus vesiculosus* for reducing obesity has obtained recognition in professional circles abroad. Dr. Fairbank writes to the *British Medical Journal* as follows: "More than fifteen years ago, I gave some of the extract in pill (four grains three times a day) to a very corpulent lady, who in three months lost three stones in weight without any change of diet. Since then I have frequently given it for reducing weight depending on the accumulation of adipose tissue, and have never found it fail. The solid extract can be easily made into four-gram pills, which must, however, be kept in a stoppered bottle, as they readily absorb moisture from the air. I may say that a patient who has been lately taking it as an anti-fat, and who has always suffered very much from rheumatic pains about the body, has been entirely free from such trouble while she has been taking the extract, a fact which she quite independently noted."—*Boston Journal of Chemistry*, October.

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### THE CORN DOCTOR'S PROGRESS.

Dr. Edmund Andrews, of Chicago, who has been dealing quackery some telling blows of late in exposing some of the tricks by which it fleeces the unwary, has turned his attention to the corn doctor. He does not, however, regard the "chiropodist" as an unmixed evil, but, on the contrary, thinks he is cultivating an important field which educated physians have, by default, given over to his exclusive care. Certainly corns, bunions, and the ailments to which the human foot is liable are entitled to more intelligent consideration than is usually accorded them by the average doctor. There is, moreover, scarcely another section of the human anatomy on the ailments of which so little has been written as the foot, and, as Dr. Andrews remarks, most of that which has been written is of "a wretchedly poor quality, and of such a contradictory character, that the less it is read the less it will confuse the student. The absurd and contradictory remarks let slip by some of the most eminent authors are discreditable to our profession."

We have in our city a chiropodist who has occasioned some chagrin to regular physicians, and to some, too, who have a *penchant* for surgery, by removing corns and reducing bunions, and receiving fat fees after they have failed.

Dr. Andrews says of the Chicago corn doctors, that

"They seem for the most part to be pursuing their business in an honest and reputable manner, and some of them have the very best families of the city and the country among their patrons. They are rising by degrees towards the rank of a legitimate and honorable specialty, though at present they are decidedly lacking in the amount of education which they ought

to possess. Their work is upon corns, bunions and ingrowing nails. For extracting corns the price is from half a dollar to a dollar each, and they take care of patients by the year for $10 to $20. They have the same obscure and contradictory ideas about the structure of corns, which exist among authors, especially on the question whether there are originally any living papillæ running up through the central spike or "*racine*" of the corn. I have not learned of any investigations among them to settle the point, other than to note the little blood clots occasionally enclosed in the "racine."

Their instruments are simple. One family of chiropodists, which has branches in New York, Boston, St. Louis and Chicago, use mostly thin chisels, with the edges running obliquely across the blade. This is handled with a lateral movement, while a much narrower kind is used to work around and lift out the central root. Some instruments have round ends for working between the toes. After extraction the operator cuts a hole in a small piece of thick buck skin, and applies it over the spot by the help of adhesive plaster, and they thus relieve the patient for two or three months.

They all agree, of course, that faulty shoes are the cause of the corns, and their uniform direction for correct ones is to make the heels low, so that the foot shall not slide down upon the toes; to have it snug on the instep to hold the foot back, and to make the toes wide and long. One of them has a shop attached to his office, where he superintends the construction of proper shoes for his patrons.

A chiropodist named Willard has an operation for ingrowing nail, which may be original; at any rate I have not yet found it in any book. He asserts, what is pretty nearly true, that the term ingrowing nail is a misnomer, the nail itself being unchanged in form. It is simply an overgrowing of the flesh, with inflammation. He neither extracts the nail nor slices off the overlapping flesh, but cuts out a narrow ellipse of tissue near the nail and parallel to its border, claiming that the border itself, where it rests against the edge of the nail, has its special structure adapted to its location, and ought not to be sacrificed. The removal of the strip of flesh being accomplished, he brings the edges of the wound together with fine sutures, thus drawing the border away from the nail, and effecting a cure. I have not yet tried the plan, but it seems worthy of being tested.

When the chiropodists have made a further advance in education, they will probably add the treatment of talipes to their work, but at present they are neither competent for it nor attempt it, except in a few instances.

They are now in a transition state, but we may hope in time to seem them become a well educated class of men.—*Michigan Medical News*, August 25.

## THE MUTUAL AUTOPSY SOCIETY OF PARIS.

By Henry M. Lyman, M.D., of Chicago.

Considerable amusement was excited, a few years ago, by the announcement that a society for mutual autopsy had been formed among the savants of Paris, with a view to advancing knowledge of the structure and physiology of the brain by a correlation of intellectual characteristics with *post mortem* appearances. The whole thing was generally regarded as a scientific joke of more than ordinary magnitude. But the society appears to have been a genuine fact, and one of its members, M. Asseline, having recently deceased, his brain was carefully examined by his surviving associates, who made a full report of the result to the Anthropological Society of Paris. The following account of the matter is found in *Nature*, Aug. 14, 1879, p. 377:

"M. Asseline died in 1878, at the age of 49. He was a republican and a materialist; was possessed of enormous capacity for work, great faculty of mental assimilation, and an extraordinarily retentive memory; and had a gentle, benevolent disposition, keen susceptibilities, refined taste and subtle wit. As a writer he had always displayed great learning, unusual force of style and elegance of diction, and in his intercourse with others he had been unassuming, sensitive and even timid. Yet the autopsy showed such coarseness and thickness of the convolutions that M. Broca pronounced them to be characteristic of an inferior brain. The fossa or depressions, regarded by Gratiolet as a simian character, and as a sign of cerebral inferiority, which are often found in women, and in some men of undoubted intellectual inferiority, were very much marked, especially on the left parietooccipital. But the cranial bones were at some points so thin as to be translucent; the cerebral depressions were deeply marked, the frontal suture was not wholly ossified, a decided degree of asymmetry was manifested in the greater prominence of the right frontal, while, moreover, the brain weighed 1,468 grams, *i.e.*, about 60 grains above the average given by M. Broca for M. Asseline's age. The apparent contradictions between the weight of the brain and the marked character of the parieto-occipital depressions, attracted much attention, and the members of the Société d'Anthropologie have been earnestly invited by M. Hovelacque, in furtherance of science, to join the Société d'Autopsie, to which anthropology is already indebted for many highly important observations. This society is forming a collection of photographs of its members, which are taken in accordance with certain fixed rules."—*Chicago Med. Jour. and Ex.*, Oct.

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## TREATMENT OF THE UMBILICAL CORD AFTER BIRTH.

At a recent meeting of the Medico-Chirurgical Society of Louisville, Dr. Ed. Von Donhoff stated that he had been pres-

ent at the birth of three children recently upon each of which he had adopted with success, the method of Stokes, of Grayville, Ill., in the treatment of the cord. As soon as the circulation began to grow feeble the doctor compressed the cord between the finger and thumb at the usual distance from the child's abdomen, and then severed it with scissors. No ligature was applied on either side of the cut. No *swathing-band* was applied, nor any dressing to the cord, it being left to shrivel and dry. No bandages were applied to the mothers of the children. Since this report, Dr. Mayfield, of this city, reports to the writer that he has recently adopted the Stokes method in one case with entire success. Dr. J. G. Stokes, of Illinois, in a lengthy essay on this subject, read before the Medico-Chirurgical Society by request, stated that he had for eight years discarded altogether the application of the *swathing-band* and that he had frequently omitted to litigate the umbilical cord before severing it. In a very extensive obstetrical practice the doctor had not seen a single case of umbilical hernia, nor an abraded or ulcerated navel. This should lead to the general adoption of the practice, so successful in the hands of every one who has tried it. * —*The Medical Herald.*

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## THE PROBABLE VALUE OF CHLORIDE OF BARIUM IN INTERNAL ANEURISM.

I wish to draw the attention of the profession to the action of the soluble salts of baryta on the heart and blood-vessels, and to their probable efficacy in the treatment of some varieties of internal aneurism.

In the middle of February, 1878, it fell to my lot to deal with an abdominal aneurism.

The patient was an elderly married lady, aged 65; she was not robust, on the contrary, fragile, but of such active habits in social and philantropic work, that she perpetually overtaxed her strength; with the exception, however, of an attack of pleurisy, and an occasionally very troublesome cough, she had enjoyed very fair health; she was the mother of three children, and had had several miscarriages; she had been always temperate in every sense of the word, and during the greater number of her years had been a total abstainer from every kind of alcoholic drink; she manifested symptoms of inherited gout, and a near relation gives indications of having divided the inheritance with her.

She confessed that she had often felt throbbing in the body, and pain there, and also in the back on the left side, but she had made no complaint about the matter to her medical attendant, and fulfilled her usual social and domestic duties until she was, one day in February, 1878, attacked with severe shivering, and a sense of severe malaise. On the following morning I found her temperature 102°.4, and on searching for the

cause of the pyrexia I discovered a pulsating tumor, painful, situated behind, above, and to the left side of the umbilicus; there was a loud systolic bruit heard over the tumor, and in the course of the common iliacs; the bruit was heard with the stethoscope in common use, and also very distinctly with Spencer's differential stethoscope, which can be used without any pressure; there was also a bruit heard close to the vertebral column on the left side; pressure on both external iliacs greatly increased the pulsation, and so distressed the patient, that I received a decided impression that it would not be advisable to repeat the experiment; the throbbing was also greatly increased by any exertion, and by any excitement or emotion; the transverse colon could be felt crossing the tumor, and when distended with flatus it gave rise to very distressing increase of throbbing. The pulse varied from 72 to 100, usually about 84; at the wrist it was full, compressible, but with a considerable degree of tension, and it had the same character in the carotids and iliacs. There was a moderate degree of anæmia, and a worn, distressed appearance of the countenance. No vomiting, appetite very small, digestion weak, bowels relieved by enemata; sleep very much disturbed and scanty.

The case was seen by several professional gentlemen, and independently by Mr. J. W. Teale, of this town; they all agreed that the case was one of abdominal aneurism.

The patient was put upon Tufnell's diet, and kept perfectly at rest in the horizontal position. During this treatment and at the commencement of it, the urine was examined several times; specific gravity usually about 1026—at first no albumen, in about one month just a trace of albumen, and after that no albumen at any examination; at the end of two or three months of Tufnell's treatment the daily average of urine was about one pint three ounces. The temperature soon fell to normal, and there was no other cause discoverable to account for its rise; during the progress of the case the temperature only very occasionally rose to 101°, as from any emotional excitement, and also during a distressing toothache from a necrosed tooth.

At the end of five months of this treatment, which was carried out by the patient and attendant most conscientiously and rigidly, there was no improvement in any way; the tension of the pulse remained the same, and the throbbing of the tumor had rather increased, so that under any excitement, as for instance, during a thunder-storm, it quite shook the bed; the sensations of the patient and my own observations began to prepare me to expect the worst.

There were reasons for abstaining from the use of large doses of iodide of potassum, so I did not try it. After careful consideration I selected chloride of barium as a probably useful remedy, and began to give it in doses of one-fifth of a grain three times a day; after three or four weeks I increased the dose to two-fifths of a grain, and with the exception of a very

short trial with three-quarters of a grain, I kept to two-fifths of a grain during the remainder of its administration. Within a fortnight of the use of the chloride there was a very marked diminution of throbbing both to the sensation of the patient, and by my own observation; after five weeks use of it the patient was able to bear the removal of a necrosed molar tooth (which had for a few days given rise to neuralgia in the head and to distressing face-ache) without an anæsthetic; the tooth was, of course, not firmly fixed, but I should not have dared to allow its extraction previous to the administration of the chloride; and after nearly five months' continued use of the same remedy the tumor was so reduced that it could scarcely be felt, and only a faint systolic murmur could be heard. At the present time, four or five months since the discontinuance of the chloride of barium, there is still a slight systolic murmur, but no throbbing; the pulse is about 72, and has entirely lost its unnatural tension.

Mr. J. W. Teale has recently seen the case again, and he expressed himself highly gratified with the change in the patient's state. So that testimony can be borne by an independent trustworthy practitioner to the accuracy of the diagnosis in the first place, and to the reliability of the improvement.

It will now be interesting to examine into the *modus operandi* of the drug. According to the experiments of Boehm (Ziemssen vol. xvii. p. 377) it would appear that the salts of baryta in overwhelming doses paralyze the heart and blood vessels; but that in more moderate doses they stimulate or irritate the heart and blood vessels, so that the pulse is made more rapid, and the blood-pressure very greatly increased. What are the doses which will produce the opposite results is not very certain. A poisonous dose of the chloride is half a grain; Ringer puts the dose at from half a grain to a quarter of a grain, but in the edition I have he does not state for what purpose. Hammond gives doses of three-quarters of a grain three times a day in multiple spinal sclerosis—as a nervine stimulant I suppose. I have myself taken about one grain three times a day for several weeks with a very marked stimulant effect. So that I should expect the stimulant dose to be somewhere near one grain, and the paralyzing dose nearer two drachms. The dose I selected was under that which I suppose could produce a decided stimulating effect; and as a most essential improvement occurred at the beginning of the use of the salt, when I was giving one-fifth of a grain, I should not be surprised to learn that I should have done as well, if not better, by keeping to that quantity. There was no marked decrease in the rapidity of the pulse, and no sudden diminution of the impulse; the throbbing gradually subsided, and the general improvement went on *pari passu* with it. There was not any sign of a paralyzing influence of the drug on the heart. I regret that I had not in my possession a

sphygmograph, and that I cannot, therefore, give any sphygmographic tracings.

The drug appears to have a decided affinity to the muscular coat of the arterial system; and I imagine that it restored tone to the diseased portion of the arterial coat, and thus gave rise to consolidation of the weakened arterial wall. In my case the aneurism appeared to be fusiform rather than sacculated, and therefore deposition of fibrin could not very readily take place.

It may be said that since the chloride of bairum causes an increase in the blood-pressure, it is not reasonable to expect that it should do anything but harm in a case of aneurism; no one, however, who has witnessed the beneficial effects of ipecacuanha in dyspeptic vomiting, or of arsenic in gastro-enteritis, or of cantharides in some cases of nephritis (*vide* Ringer's Therapeutics), will be deterred by the fact mentioned above from giving the chloride of bairum in aneurism in an appropriate dose. Of course it may be asserted that the improvements in my case arose from the prolonged rest and rigid diet, and was only coincident with the administration of the chloride; this is quite possible, but the progress of the case did not make it appear to me at all probable.

The question of the value of the drug in aneurism can only be decided by repeated trial; and I report my case as fully as I have done, that it may be tried by others in suitable cases.

In my opinion preference should be given to the chloride of bairum in fusiform aneurisms which have hitherto not been very amenable to treatment; also in the aneurisms of advanced age; and it might also be tried in any case in which iodide of potassium is admissible, or does not promise to be useful.

Of course perfect rest is essential to any medical treatment; and it would be well to try Tufnell's diet alone at first, and to adhere to it as far as possible during the use of the drug. By F. Flint, M.D.—*The Practitioner.—Cincinnati Lancet and Clinic*, Aug. 23.

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## THERE IS DANGER IN A KISS.

By R. L. Payne, M.D., Lexington, N. C.

Very many of the diseases to which we poor mortals are liable, can be prevented, provided proper efforts are put forth to meet that most desirable end.

This truth no one will gainsay, still, the subject has not yet attracted the attention its importance demands, and it appears now to be the especial duty and province of those of our profession who live in this day of preventive medicine to erect finger boards along the highways of life, which shall point out clearly and plainly the known causes of disease, and also the usual means of propagating and preventing the same, so that all persons may be able to see and profit thereby.

There is offtentimes *danger in a kiss*, notwithstanding Lord

Byron, that prince of poets, in the days gone by, expressed the wish

> "That womankind had but one rosy mouth,
> To kiss them all at once from North to South."

Ah! it was a bad wish even for so bad a man, and so faithless a lover as he, yet it does seem that he was not peculiar in this respect, since in this glorious age of enlightened progress, such sickly sentimentality is no less popular, and has no fewer votaries, than in the days of old, because kissing, *kissing*, KISSING is still the order of the day.

The ladies kiss each other upon every offered opportunity; every flimsy pretext; the poor little children, and even the babies are made to do likewise in compliance with the requirements of genteel society, and the men too, would do the absurd thing at every meeting, were it not for the lamentable truth, that they are obdurate and have not yet been educated up to the sound, civilized and philanthropic principle of "dog eat dog."

They say they would not enjoy such a proceeding even under the most auspicious circumstances, and I fully endorse the sentiment.

However, I am not going to make war upon kissing under all circumstances, because husbands and wives, and parents and children, and lovers, etc., etc., will sometimes resort to the diversion, and I am free to admit that under favorable circumstances the practice may be allowed, although it be unnecessary, yet they all should know of the poison that often lurks in a kiss.

But it is about kissing in general I want to speak—the foolish fashion, the idle fancy,—the consummate folly of this age!

There is no doubt of the fact, that, the practice of promiscuous kissing, which is prevalent in many localities, is the source of untold evil to the human family; nor can there be a doubt either; that upon this frivolous altar of fashion, is sacrificed annually a hecatomb of innocent victims.

Every physician of experience knows this to be true, and yet as a body we have been strangely and culpably reticent upon the subject.

For the sake of illustration allow me to imagine a case which, although imaginary in this particular instance, is alas, of frequent occurrence in every day life. Two ladies meet upon the street, or elsewhere, by accident, or by design. The one is wan, delicate, sickly, with slight sores upon her lips, or within her mouth; the other is vigorous, the very picture of a robust, healthy woman. Perhaps, both of them are good, innocent and virtuous women, but the first mentioned, by no sin of her own, is a victim of that fell destroyer, syphilis.

The fashion of the day, the mawkish custom of polite society demands that they shall kiss each other.

They may be scarcely more than acquainted, not even friends in the true acceptation of the term, but all-potent custom requires it, and the kiss is given.

They part mutually well pleased, and the kiss of empty form is at once forgotten, but its stealthy sting remains to do its silent work of ruin.

Soon that lively, healthy, splendid woman loses her bloom, wilts, withers, and decays, because she too, has been touched by a poison which if not more instantly fatal, is, at least, far more subtle, and more lasting in its effects, than is the scorpion's sting, or the sirocos smothering breath. The kiss was lightly given, and lightly received, only a passing courtesy, but God only knows where its effects shall end!

If the woman, per chance, bears children after inoculation its results may descend a blighting, withering curse to generations yet unborn.

This picture is not overdrawn, and has been repeatedly exemplified in the experience of many of our profession, and here is another, which many have seen and will recognize as faithful.

A happy loving husband and wife become strangely diseased; the husband consults his physician, and is horrified to learn that he is suffering from syphilis. He knows that he has ever been faithful to his wife, and she knows that she has always been true to him, but the green-eyed fiend distrust enters their bosom, each suspects the other of a breach of trust; and the monster suspicion is, perhaps, forever enshrined upon the altar where once burned only the fires of confidence and love.

Such cases are by no means uncommon, and may sometimes follow as the consequence of a *fashionable kiss.*

Ricord, speaking of the means of propagating syphilis, asserts that, "the organs of the mouth are often the propagators of the contagion by a lascivious kiss, by the application of the lips, or tongue to some part of the mucous membrane, by suction of the breasts, and especially in suckling."

S. D. Gross, so often called the nestor of American surgeons, (than whom I recognize no higher authority) says: "A chancre may sometimes form upon the lip; more frequently the lower than the upper, as the result either of the contact of chancrous matter, or of inoculation with the secretion of a mucous tubercle, as in act of kissing, smoking, drinking, or glass-blowing," and again, "chancre may be communicated by a sore, or mucous tubercle upon the lip, or tongue of the child in the act of sucking."

Many of the members of the North Carolina Medical Society will remember an interesting case in point, reported when we last met in Wilmington,* by our distinguished confrére, Dr. E. Burke Haywood, of Raleigh, in which a lady contracted a

*Transactions for 1870.

buccal chancre from a secondary mucous tubercle on the lip of her lover. The doctor speaks of this case as "a warning to lovers;" would to God that such warnings might be written everywhere in characters so plain that "even the wayfaring man though a fool need not err therein."

The following cases came under my own treatment last summer.

A young man came to me with a neglected case of pox. He was already in the secondary stage of the disease, and among other symptoms which presented, had several mucous patches upon his lip, and within his mouth.

He had a little cousin, a girl child of sixteen months of age, who was still at its mother's breast. They were very fond of each other and he was frequently in the habit of fondling, and kissing the child.

Of course I knew nothing of this intimacy, or I should have warned him of the danger. Some weeks after this I was called to visit the child and its mother. I found the little one with enlarged cervical glands, sore mouth, sore eyes, etc., and its mother said to me, after I had prescribed for the child. "Doctor, please look at my nipple, I believe I going to have cancer of the breast." Her nipple was sore indeed, and her axillary lymphatic glands were enlarged and indurated, not from cancer, however, but from a characteristic chancre.

I treated them all for syphilis, and the good results of the treatment verified my diagnosis. I have seen many similar cases during the last twenty-five years, and many more might be cited from the authorities upon this loathsome disease, but the above are sufficient for my purpose.

Now let us look at another picture! A number of ladies are gathered together in a social party with their younger children, and infants. As a matter, of course, they all kiss each other, and each other's children, and the children are made to do so too, in accordance with the customs of this Christian land.

All are merry, happy, jubilant even, except one poor child who sits apart from the others, with quickened pulse, flushed, or ashen face, slightly swollen throat, and feverish brow.

His eyes are dull and heavy, and he complains of pain in his back, limbs and head, and slight soreness of his throat. The poor boy has diptheria, yet all of that jovial company have kissed him, and have run the risk of that dread contagion!

I know that the authorities are divided with regard to the contagiousness of this disease, and that the question is still considered by many as *sub judice;* but be that as it may, I have seen enough with my own eyes, in my own practice, and alas! even around my own hearth-stone to convince me beyond a doubt of its contagiousness, and that it can be communicated by kissing, and although the whole world of physicians should declare that it is not, I am, from my own experience, stubborn enough to believe that it is, and such will be my honest conviction until I have more, and better proofs to the contrary.

Very many other diseases may be conveyed by the act of kissing, and I might go on at length enumerating them, and adducing "confirmations as strong as proofs of Holy Writ;" but my object is simply to call attention to the truth which lies in this direction, and to testify most solemnly against a practice so fraught with danger, so pregnant with death!

The act of kissing is never under any circumstances indispensable, and the indiscriminate practice is not only unnecessary, but is also foolish, dangerous, and very often insincere.

Ah, yes; many an insidious kiss has been given since the days of Judas! Then, why longer indulge in a custom so empty, so meaningless, but yet so potent for evil?

The people at large are ignorant upon this subject, but medical men are not. Let us then as a profession speak for the truth, although many may say that our words are wasted, and that we are but "carrying our coal to Newcastle." Let us do what we know to be right, though the heavens fall, being assured that duty performed brings its own reward.

> "Who does the best his circumstance allows,
> Does well, acts nobly,—angels could no more."

*North Carolina Medical Journal*, Aug.

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## ARIGO AND FIORANI—A FEMALE MAN.

By Joseph Workman, M.D., Toronto, Canada. [Translated from *Ann. Univ. di Med.*, March, 1879.]

The authors describe the case of a woman presenting virile appearances, and who died at the hospital of Lodi, aged 68 years. The head was of masculine form, the nose aquiline, the face oblong, a beard thick and gray; nipples athropied; no appearance of female breasts.

The *mons veneris* fully developed, and covered with copious gray hairs; underneath this was a penis as thick as an ordinary thumb, and eight centimetres (three and three-twentieths ins.) long, furnished at its extremity with a reguiar *glans*, wanting, however, the urethal aperture; along the posterior face of the penis and precisely in the line of the male uretha, between the *corpora cavernosa*, there was observed a sulcus, not covered by skin, but with a mucous coat rendered more consistent by its exposed situation: this sulcus continued to the root of the penis, and terminated at an orifice large enough to admit the passage of a goose quill. Proceeding from the sides of this orifice and descending to the perineum were two symmetrical prominences formed in like manner as the *labia majora* of the vulva, and covered externally by a few hairs, the interior surface being covered by a membrane more delicate than the skin, so that it might be taken for a mucous coating. These prominences, descending to the perineum; if superficially regarded, might have been mistaken for a scrotum sulcated by a large *raphe* and containing atrophied testicles; but when examined

with care, they were found to correspond to the *labia majora;* these were quite impervious, being closed by the membrane above mentioned, which cut off communication with the internal parts.

In the abdomen was found a uterus of virgin figure and volume, and of normal conformation, both in its body and in its neck; broad ligaments; Fallopian tubes and ovaries in the ordinary virgin state. The bladder being opened, a gum catheter passed through its neck found exit through the orifice at the root of the penis. The vagina being laid open posteriorly, so as to display the cervix uteri, this part was seen of small, sylindrical, unusual size; and a second gum catheter being introduced into the vaginal canal (which was long, consistent and normally capacious), this found exit through the same orifice as the other, impinging first against the division between the two prominences formed by the labia majora, and in its departure from the orifice it showed a small opening.

We have here treated of a true woman, with perfect internal organs of generation, a clitoris over-large, a hymen constituted of the skin which closed up the part comprised between the labia majora, and also a vagina and urethral canal, which instead of opening regularly to the exterior, formed a sort of *clouca*, with their outlets at the orifice at the base of the clitoris.

So far as regards the physical state of this interesting subject, the authors were able to ascertain but few particulars. She kept apart from young men of the same age, preferring to their amusements prayers and religious observances. She was of a mild disposition, rather economical, and quite sober. She did not attend the call for military duty, as she was an only son (so reported). There appeared to have been some question as to her sex at the time of baptism. She was, however, baptized and registered as a male, and as such conducted herself to the end of life, laboring in the rather heavy work of cheese-making. —*St. Louis Medical and Surgical Jonrnal*, Aug.

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## INTRA-UTERINE MEDICATION.

By Clement Godson, M.D. Assistant Physician Accoucheur to St. Bartholomew's Hospital, Honorary Secretary of the Obstretical Society of London.

It is with a feeling of anxiety that I see in the *British Medical Journal* of August 30th, a series of abstracts of papers which were read at the annual meeting in Cork, advocating the treatment of certain uterine complaints by means of medicaments applied to the cavity of the body of the womb. This *Journal* has such an enormous circulation among all classes of the profession, that the mere heading will attract the notice of many who have but little time to do more than glance at the contents of the papers; and I fear that, having ascertained that carbolic acid, iodine, etc., are useful agents in the treatment of uterine discharges, many will fly to put their efficacy to the test, without having learnt to discriminate the class of cases

applicable to them, or having attained the skill necessary to employ them. There is much in fashion. A century ago every one was bled; now, venesection is hardly ever practiced. We have passed from one extreme to the other. A few years since, in gynæcological practice, division of the cervix by the metrotome was constantly performed by some physician; now, this operation is but rarely undertaken; indeed, we hear, at least in one quarter, that sewing up the gaping os uteri is all the rage. Lately, there has been a discussion on the use of the forceps and its alternatives in lingering labor, before the Obstretical Society of London. Many eloquent discourses have been contributed, and the subject has been ably discussed by several of our eminent leaders in the school of mid-wifery. But, to sum up the whole, at what have we arrived? The general impression gained, is that the forceps is used far less frequently than it might be with advantage to both patient and practitioner. The result of this will be, unless I am much mistaken, that an authority has been granted for the frequent use of the instrument, and that we shall find the evil effects of this from its indiscriminate and unskilful employment. In the out-patient female department of St. Bartholomew's Hospital, where I see from fifty to seventy new patients per week, I have unusual opportunities of observation. After having made an examination, I am frequently led to inquire: Were you delivered with instruments in your confinement? And, in nine cases out of ten, the answer is in the affirmative. The reason why I put the question was that I found the cervix deeply fissured up to its junction with the vaginal wall, along which extended a cicatrix. This is a clinical fact, which testifies to the truth of the remark made by Dr. Henry Bennett in his speech, and objected to by Dr. Barnes in his reply, at the Obstretical Society's discussion.

But, with respect to uterine medication, the results are likely to be much more serious; and I have already met with instances. If an application to the cavity of the body of the womb be required, there should be an amount of *endometritis* calling for it; but, in how many cases of discharges from the os uteri does the exudation come from above the canal of the cervix—the so-called internal os? I venture to say, in very few. The probe, covered with cotton-wool saturatod with carbolic acid, is passed along the cervical canal up to the fundis uteri. and in many cases good results are obtained—not because the fundis uteri has been reached, but *because the application has been made to the canal of the cervix;* and, had a zinc-alum point been placed in this situation, and the uterine cavity had not been reached, the result would have been equally satisfactory, without the risk of danger possible to occur from probing the cavity of the womb. This brings me to the nature of the evil consequences.

One which I have met with is abortion. The possibility of existing pregnancy has not been thought of. The patient may

have gone but a few days over her time for menstruation, and, not having been very regular previously, little heed is paid to this. Nevertheless, she may have conceived immediately after her last period, and, if even she have not quite reached her next menstrual epoch, she may yet be pregnant when the application is made. Another danger is that of inflammatory mischief in and around the uterus. It is well known how the simple passage of the ordinary uterine sound is liable to give rise to this. Surely, then, a probe saturated with carbolic acid or other agent is equally if not more likely to produce such results.

The points, therefore, that I would urge upon my professional brethren are these. Before deciding to make application to the cavity of the body of the womb, be satisfied that this part is affected by disease, and that it is not the cervical canal only that is involved. Without having determined this, it would be just as irrational to pass a medicated bougie into a man's bladder for every purulent discharge escaping from the meatus urinarius.

The papers to which I have referred, as published in the *Journal*, fail to my mind to show sufficiently clearly, the symptoms which give proof of the existence of endometritis. Then, the application should never be made to a sensitive uterus in which inflammation is likely to ensue, or pelvic inflammation or abscess may result; and a probe should never be passed into the uterus of a child-bearing woman about the time of an impending menstrual period; indeed, it would be well to make a rule not to probe the cavity within a week of the catamenia, but to limit the time for intra-uterine medication to the fortnight subsequent to the cessation of the flow.—*British Medical Journal*, Nov. 8.

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### NERVOUS MALADIES OF UNCULTIVATED PEOPLE.

In curious confirmation of the strictures we made on the theory advocated by Dr. G. M. Beard and others, that increasing culture entails increase in nervous maladies, is a paper published in *La Presse Med. Belge*, August 31st, from the pen of Dr. Wilmart, on the character of the peasantry of Central Russia. They are, he says, of the middle height and below this. They are of very nervous temperament, of slight endurance, passing rapidly from enthusiam to discouragement. They will not submit to the slightest operation without chloroform; they can bear only small doses of medicine, and even slight inflammatory affections are soon complicated by delirium, convulsions, etc. Steeped in ignorance, and possessed of little power of moral resistance, they readily abandon themselves to the deepest melancholy, easily yielding to the impulse to suicide, especially by drowning.

Among the diseases of the peasantry, those of the nervous system hold the first rank, hysteriform neuroses prevailing

equally among men and women. Pain is a prominent symptom, and large quantities of opium are taken for its relief. Anæmia is very prevalent, especially among females.—*Medical and Surgical Reporter*, November 1st.

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### RESULTS OF TREATMENT IN VIENNA.

There is strong reason to believe that the modern treatment of disease in Germany has greatly deteriorated since the days of Niemeyer. Theorizing, histology and diagnostic refinements have taken the place of the effort to cure disease by rational empiricism. Witness the next to worthless therapeutics in Ziemssen's *Cyclopædia*. A Vienna correspondent in the Canada *Medical and Surgical Journal* gives some striking statistics. In Bamberger's clinic, of 27 cases of pneumonia, 17 died; 24 per cent. of all cases of typhoid fever die; facial erysipelas is "frequently fatal," etc. We do not believe that the case book of the average American physician shows anything like this mortality; and our city hospitals certainly do not. It looks as if medical science in Germany was running to seed.—*Medical and Surgical Reporter*, August 23d.

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### BROWN-SEQUARD'S THEORIES OF THE NERVOUS SYSTEM.

This eminent teacher continues to announce that his experiments and researches prove that the doctrines of cerebral localization are erroneous and based on false assumptions. His demonstrations are striking. Thus, in an animal in which the right motor half of the pons varolii was incompletely divided, the left half of the bulb was afterward cut through, there remained no other way of communication between the two halves of the encephalon than by a small portion of the anterior longitudinal mass of fibres on the right side of the protuberance. Now, in this case, the galvanization of the motor centres at the right and at the left caused exactly the same movements in the limbs of the side opposite to the centres. The experiment was repeated a number of times, always giving the same results.

It is observed by M. Grasset that the whole doctrine of Prof. Brown-Sequard is governed by two entirely new principles, viz:

1. All the phenomena which one ascertains after limited experimental or clinical lesions of a part of the cerebrum are produced by action at a distance.

2. There are no agglomerated and circumscribed centres in the cerebrum for any function. There are certainly special cells, distinct elements, but these cells are distributed through the whole mass of the cerebrum. In other terms, there are no circumscribed, but diffuse centres. — *Medical and Surgical Reporter*, November 1st.

## PERCENTAGES FROM DRUGGISTS.

Our comments, some months back, on the impropriety of physicians taking percentages on the prescriptions they send to druggists, has met the approbation of many honorable men and journals. The Chicago *Pharmacist* speaks of the prevalence of the swindle in that city. It says:

"Many physicians in this city demand as high as forty per cent on the gross price of their prescriptions to patients, while others are content with twenty-five per cent., and yet others only ask their office rent, while a goodly number only expect cigars and liquors free. Some degree of collusion between druggists and physicians exists almost everywhere, and probably always will, but the practice of giving any very substantial inducements to the physician for his influence is commercially and morally wrong."

How long shall this discreditable state of things last? Will not the medical societies take some action?—*Medical and Surgical Reporter*, November 1st.

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## SIMPLE PERFECTED TEST FOR SUGAR.

By L. S. Oppenheimer, M.D.

Demonstrator of Histology in the University of Louisville.

Heretofore in this country the favorite qualitative test for grape sugar in the urine has been the Trommer test; after this, as qualitative and quantitative, Fehling's test and the fermentation test. Besides these there are a number of others equally as good, but not so universally applied. These are Heller's More's, Böttger's, Frohn's, Piffard's and Haynes's. It is to this latter that I owe the suggestion that led me to perfect the sugar-test as here offered. The objections to Haynes's test are that it is not a quantitative test, and that the copper is precipitated after standing a short time. Of all the tests Trommer's is the least reliable, Fehling's the most. The only objection to the latter is its liability to alteration. Professor Flint, Jr., keeps the various constituents of Fehling's solution in separate bottles; but this, he says, does not prevent the serious decomposition of the solution of neutral tartrate of potash. Besides this the copper solution is apt to undergo change and precipitate some oxide. Another disadvantage of all of the above tests, except Frohn's, is the impossibility of finding sugar if albumen be present or if the urine be ammoniacal. None of these are obstacles to the qualitative application of my test, which is simply a solution of copper sulphate in pure glycerine in this proportion:

Pure sulphate-of-copper crystals.....grs. 50;
Pure glycerine.....oz. 1.

This equals six and a quarter grains copper to one dram of glycerine, and this will reduce one grain of grape sugar in the

presence of a caustic alkali. The glycerine protects the copper from the action of the caustic alkali, and as well from the various constituents of the urine. The copper crystals must be thoroughly triturated with the glycerine in a mortar, and kept in a clean glass-stoppered bottle.

*Qualitative Test.*—Two or three drops are dropped into a small test-tube, and about a half dram of officinal liquor potassa added, and the whole shaken till the resulting precipitate is dissolved. The solution will then be of a dark-blue color. It is then boiled and a few drops of urine dropped into the tube, and again boiled for a minute or two. If sugar be present in considerable quantity, the fluid will suddenly become opaque, and prolonged boiling will turn it by rapid degrees to a canary or brownish yellow ; and upon cooling the yellow or brown cuprous oxide will be found in the bottom of the tube. During the test, however, the attention must be kept on the fluid itself, not on the precipitate. Ammoniacal or albuminous urine will not interfere with this reaction, if a drop or two of a weak solution of bichromate of potash be added before testing. If only small quantities of sugar be present, more urine must be added. If no copper oxide be precipitated, or if the mixture does not turn to a definite yellow, not a dirty-green color, after adding an equal volume of urine with the test-liquid and boiling, no sugar is present.

*Precautions.*—The precipitate of cuprous oxide is granular, not flaky ; and the precipitation of the whitish, grayish or brownish flocculi of phosphates, which always occurs in alkalized urine, should never be mistaken for the dense, opaque, yellowish urine containing cuprous oxide, or the bright, heavy, granular yellowish or brownish precipitate of the same.

*Quantative Test.*—One dram of the test-fluid (= six and a fourth grains cupr. sulph.) is measured into a flask, and about two drams of liq. potas. and an equal amount of water added. This is either put upon the stove or over the lamp, the flask resting on wire gauze or a tin plate. If the urine contain much sugar (as indicated by the qualitative test), it should be diluted with a measured quantity of water, as in Fehling's test ; if only a small quantity is present, no dilution is required. The measured urine—let us say one-half ounce—and the diluting agent—say one and half ounces, making two ounces in all—are dropped from a graduated tube or glass into the test-fluid and brought to the boiling point, a few drops being added at a time, and after boiling a few moments allowed to settle for a few seconds. This is continued till the opaque brownish mixture becomes yellow. The urine is then more carefully dropped, and the fluid allowed to cool a little after each boiling, till a ring of clear fluid shows itself at the surface, showing that the whole of the copper has been oxidized and is rapidly precipitating as yellowish or reddish brown cuprous oxide. This precipitate is thrown down in the first part of the examination, and increases

as the reaction is continued. This decolorization terminates the process. One grain of sugar has been neutralized. Then read off the graduate how much fluid has been used. Let us suppose six drams were used. One fourth of this (one and a half drams) was urine. We therefore have one grain of sugar in one and a half drams of the urine.

If the examiner have no flask a small morphine, or quinine bottle will answer perfectly, only half the quantity (half a dram) of the test-liquid being used if a small bottle be taken; this neutralizes, of course, only a half grain of sugar. Albumen interferes with this test, and must therefore be removed by coagulating with acetic acid and filtering; the urine is then neutralized with liq. potass. and used as above.—*Louisville Medical News*, Nov. 8.

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## LOSS OF PERSONAL IDENTITY.

ST. CLARISVILLE, O., October 20, 1879.

*Dr. E. J. Birmingham,*

*Editor Hospital Gazette, New York:*

SIR—I herewith send you a note of an interesting case under my care in County Infirmary. If of sufficient interest please give it a place in the *Gazette*.

Respectfully,

A. H. HEWETER.

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I have had under my care as physician for our County Infirmary a very interesting case. There is no discoverable bodily disease, but a very peculiar mental state. The patient has lost all knowledge of his personal identity; does not know who he is, where he came from, or whither he was going. He became an inmate of our infirmary about nine months since. The following is his history since taken in charge by our county officials. All previous to that is a blank to himself and entirely unknown to us:

About the time referred to, nine months since, he found himself standing upon the depot in Bellaire city with a little money in his pocket, and a small travelling bag in his hand. This bag contained a change of linen, pair of scissors, and some blank paper like that used by editors. His clothes were quite genteel and the underwear in his valise was neat and clean. His entire appearance was that of a well-cared for gentleman ready for business

There was no name on any property about him indicating who he was; entirely nameless, except that on some part of his effects was the name Ralph. This is what he is called in the infirmary.

After thinking and thinking while at the depot he at last went to the nearest hotel and gave the landlord a candid statement of his very strange condition. He asked for a bed, said

he had a little money, that he would be no trouble, and that he felt sure this strange mental sickness would soon pass off. The landlord became interested in his case.

The same day a gentleman came to Bellaire to lecture on temperance. Stopping at the same hotel he soon made the acquaintance of Ralph and invited him to attend the lecture. While attentively listening some impulse came over him which he could not resist, and he found himself out in the street smashing the saloon windows with a big club. The roughs ran out, beat and abused him badly, breaking the neck of the humerus and beating one side all black and blue. This brought him into the hands of the police. But the lecturer, the doctor, the landlord and mayor, all became interested in finding out who he was. They made every effort, but utterly failed.

He certainly is a man of more than the average ability; has had quite an extensive knowledge of business, and is very expert with the pen. Some think that he must have been connected with the press. Others, a clerk in some calling in which the use of the pen and figuring was the daily habit. In this way alone can they explain his great expertness.

His knowledge is entirely correct upon all matters disconnected with the question of identity. He has the use of his mental powers in all other directions.

I made him, after having the best evidence of his fitness, my assistant. He has put up all the medicine, etc. I procured him Parish's Pharmacy, and in a remarkably short time he was able to fill any prescription I required, and in many other ways to assist me.

So great is his general knowledge, and so correct all his recollections of general events, and all special duties imposed upon him, that many were skeptical and believed him to be feigning. But, after nine months close observation, we are all forced to believe that he is what he says he is—a man with no knowledge of his personal identity.

He is about fifty (50) years of age; rather spare; has dark hair, well sprinkled with gray, and is quite a gentleman in appearance. He has made himself so useful, agreeable, and so anxious to return all he can for the benefits he has received, that he was presented with a new suit of clothes and directed to eat at the superintendent's table.

I report the case both on account of its psychological interest, and that possibiy it may lead to his identity.

He has been published in our newspapers pretty thoroughly, but these have a much more limited circulation than a medical journal like yours.—*Hospital Gazette*, November 15th.

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## OOPHORECTOMY PERFORMED SUCCESSFULLY FOR MENSTRUAL EPILEPSY.

By Lawson Tait, F.R.C.S. Ed., Surgeon to the Birmingham Hospital for Women.

The case of E. E. has already been published in the *Obstetrical Journal* for May, 1873, and in my book on *Diseases of Wo-*

*men*, as a typical case of ovarian atrophy arising from exanthematic oöphoritis: a disease to which I was the first to call attention many years ago, as occurring very frequently as a sequel of scarlet fever and small-pox.

Her history after May, 1873, is that the efforts to induce the return of the menstrual flow by means of galvanic pessaries were persevered in, after several relapses, till at last everybody concerned was wearied of them. The patient ceased her attendance at the hospital, and I heard of her only occasionally to the effect that her epilepsy was becoming worse and worse. One of my critics, in alluding to this case, broadly stated that I had mistaken a bad case of hysteria for one of epilepsy. I wish he had seen the poor woman as I saw her on February 5th, 1877, in an attack of epileptic mania, covered with bruises of all kinds. I urged her friends to commit her to an asylum; but to this I could not persuade them, as for at least one week in every month she was quite rational and comparatively free from fits. During the other three she had fits almost every day; and during the menstrual week, when a faint show generally appeared for one or two days, her fits were incessant and her delirium uninterrupted.

This state of matters lasted till August of this year, when her friends, completely worn out by her, seemed at last to agree that she should be placed in an asylum. Before doing that, however, I urged them to let me cut out the ovaries, in the hope that this might arrest the disease by removing what I believed to be the cause. To this they readily consented, and I performed the operation on August 11th. There was no particular difficulty about the operation, save that the patient was very fat. The ovaries when removed presented all the characters of the atrophy peculiar to inflammatory change of their true gland-structure. (*Diseases of Women*, p. 215.) Mr. Alban Doran has favored me with a report upon the ovaries removed, which completely confirms the views of the pathology of this case which I have expressed in my former publication of it. "The elongated cells of the stroma are larger than in normal ovaries: and there are few vessels, the hypertrophy of the walls of those that remain, and the bundles of fibrous tissue, point to a cirrhotic change following the exanthematic oöphoritis." One of the ovaries is now in the museum of the College of Surgeons.

The result of the case so far is very satisfactory, for the fits have entirely ceased. Three days after the operation, there came on the pseudo-menstruation which frequently follows ovarian operations, and this lasted for three days.

On September 18th, she left the hospital quite well; and the house-surgeon's note is: "Patient bright and cheerful; memory quite returned; and she is able to reply intelligently to questions put to her."

I saw her on October 13th, when she told me that she was quite well, and was going to her home in Peterborough in a few days.—*British Medical Journal*, Nov. 8.

## A CASE OF PERSISTENT OVARIAN MENORRHAGIA: OOPHORECTOMY: RECOVERY.*

By JOHN MEREDITH, M.D., EDIN., President-Elect, West Somerset Branch of the British Medical Association.

In May, 1877, I had to attend a young woman aged 20, on account of excessive menstrual discharge, which had been going on for some weeks.

The previous history of the case was briefly this. The patient, as a girl, had always been considered delicate up to the menstrual period (which, with her, began when she was fifteen), although she was well-formed and tall. Once the courses became established, she began to gain strength and fatten. The catemenia were regular, but scanty, only about three diapers at a period; still she felt well, and gave this no particular thought. Her parents are healthy, and so are her brothers and sisters. One day in March of the year mentioned (1877), while menstruating, she assisted to lift a book case. She felt the effort affecting her; and the discharge, instead of terminating at the expected time, went on day after day.

When I saw her, she was in an exhausted condition from the loss, and suffering pain, etc., in the lower part of the abdomen, indicating the presence of a certain amount of local inflammatory action. After the administration of opiates, this condition of irritability subsided; and after a while I obtained permission to make a digital examination of the vagina and cervix uteri.

The information I got from this was, that there was no appreciable difficulty in introducing the finger; the os uteri was patulus, with a blood-clot in it, and the cervix elongated. There was nothing special to note in regard to the condition of the uterus—no marked version or flexion. Now, a very natural question suggested itself, and I have no doubt it arises at once in your minds: namely, Was not the case one of miscarriage? A question which I put to the patient sometime afterwards, bearing on this, was met by a negative answer—just what I might have expected. But my duty was to arrest the hæmorrhage and bring about recovery, if I could. To this end I administered ergot, acids, bromide of potassium, chlorate of potash, digitalis, and cannabis Indica. The last-named three, in combination, seemed to answer well for a while; then there would be a relapse. Cloths dipped in vinegar and water were applied over the vulva and lower part of the abdomen; cold water, vinegar and water, and carbolic acid solution were at intervals injected into the vagina; and, of course, absolute rest in bed was enjoined, with everything cold in the way of food and drink.

In spite of everything, the discharge continued more or less until July. At times, there would be nothing but a pink sanguineous staining on the cloth. The patient soon learnt to dis-

*Read before the West Somerset Branch.

like this appearance, as she had always a good deal of backache with it, from which she was only relieved after the expulsion of blood-clots. The explanation of this, I take it, was that the clot formed in the os uteri, and, owing to the flow not being enough at times to carry itself off as a whole, the fibrin separated at the uterine outlet and in the uterus as well, staying there gathering in volume; while the liquor sanguinis escaped, and produced the stains mentioned. The fibrinous part in thickening rested upon the walls of the os, distending it, and, as in labor or any other form of tension at the os uteri, the discomfort was referred to the sacral region—the region of backache with many women. After going on in this way for a time, I decided to apply pure carbolic acid to the interior of the uterus. I did this in the usual way, by means of a piece of cotton-wool wrapped round an ordinary uterine sound. The result was satisfactory for the time; the discharge stopped for five months, the patient recovered strength, and was able again to go about and enjoy herself.

In the beginning of 1878, the menses reappeared, but nothing much to complain of at first; then the loss assumed a more persistent character. Drugs seemed to have very little influence now; nor had the intra-uterine application of carbolic acid the same arresting influence as at first; still it exercised a certain amount of staying power. Thus, matters went on unsatisfactorily to all concerned. Towards the end of 1878, the loss was not very great; still it recurred at short intervals; but, on Christmas-eve, she got excited with some of her friends, and then it came on profusely. There was always tenderness over the ovaries, at times more over one than the other, and, of course, the usual sympathetic tenderness along the spine.

Finding that I was unable to afford the relief I wished, I urged the patient to go to the Women's Hospital at Birmingham, to be under the care of Mr. Lawson Tait, with whom I had had some correspondence regarding the case. Accordingly, on January 15th, she went thither. She was thin, weak, and anæmic at the time. A few days afterwards, I had a note from Mr. Tait, saying that he could find nothing amiss with the uterus, only that the fundus was a little enlarged, nothing more.

A few days after admission, nitrate of silver was applied to the cavity of the womb, and repeated three times between that and February 15th. On the 19th, the loss ceased, and no further application was made. The patient had mixtures given her, consisting of ergot, bromide of potassium or chlorate of potash, and, after the cessation of the discharge, dialysed iron.

She left the hospital, apparently recovered, on March 1st, and went to a convalescent home, where she stayed for a good while, and was much improved. In due course, she returned home to Wellington. On the night of her return, the discharge began again.

I knew nothing of her return, or of the recurrence of the discharge, until she had been at home for some weeks. During the interval, she tried the effects of medicine which some neighbors procured for her—getting into a sort of desperation-state, which we can all pardon under the circumstances. I now tried the effects of cold water hip-baths, and with some apparent good results. Mustard poultices over the ovaries were followed by no marked benefit. Swabbing the interior of the uterus produced some relief. After a time, I introduced a piece of nitrate of silver into the cavity of the uterus, and left it there. This altered the character of the discharge; but, in spite of all, the loss persisted. I frequently left her alone, deciring her to keep still and take no medicines at all; the result was the same, always losing.

On July 9th last, I gave her a hypodermic injection of ergotine, which was followed by a stoppage of the discharge for about three weeks. On August 5th, I again sent her to the Woman's Hospital at Birmingham, under the care of Mr. Tait. At the time, the patient was anæmic, thin and weak, and hardly able to stand.

I shall give the history of the case, after the patient reached the hospital, from Mr. Tait's own report, who has kindly sent it to me to lay the result before the members of the branch.

The patient was admitted into the hospital on the 5th of August last. On the 8th, oöphorectomy was performed by Mr. Tait, in the presence of several medical practitioners. Both ovaries were removed, and the pedicle of each tied by a special knot—"Tait's knot." The ovaries were found enlarged and flabby, with traces of lymph in their neighborhood. The patient made a good recovery. The temperature did not once rise above 101°, although the pulse was 134 on the third day. The patient returned to her home a few weeks ago, able to walk a mile or more with ease; and is in every way improving, gaining strength and feeling well. It is hardly necessary to say that there has been no menstrual appearance since.—*British Medical Journal*, Nov. 3.

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### A DANGEROUS VICTORY.

In Germany physicians are not permitted to dispense medicines when there is an apothecary to do it for them. In Regensburg three homœopathic physicians were practising, when an apothecary came among them und notified them to send him their prescriptions. Two of them refused to obey, and were brought before the court and fined twenty marks. The case was carried to a higher court, and the medicines (pilules) were sent to the University of Erlangen for chemical analysis. The chemists reported that the pilules were made of pure sugar and did not contain any medicine; whereupon the judge reversed the decision of the lower court, and declared there was no law against physicians distributing sugar-plums as freely as they chose.—*Boston Journal Chemistry*, November.

## THE PREVENTION OF INFANTILE OPHTHALMIA.

A writer in the *British Medical Journal* advises as follows, in order to prevent ophthalmia of new born children:

The instant the head is born, and before the child has time to open its eyes, I wipe away from its eyes every trace of moisture. In this way the entrance upon the conjunctiva of all acrid discharge from the vagina is prevented. I have attended to this point in hundreds of cases, and have never known it to fail; while, in the same period, ophthalmia has repeatedly occurred in those cases where the child has been born before my arrival. Carefully to wipe the eyes of the child at the earliest possible moment has now become with me so much a point of routine that I never omit it, even in forceps cases, or in the uncommon presentations, and the result is the absence of the disease alluded to.—*Medical and Surgical Reporter*, Aug.

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## TRICHINÆ DETECTED BY THE NAKED EYE.

Dr. Francis Vacher, of Birkenhead, Eng., says in a paragraph in the *London Lancet* (dated February 26th), that "trichinæ in pork can usually be seen without the aid of a magnifier, the flesh being distinctly speckled. The white specks come out clearly if a thin section of muscle be treated for a short time with liquor potassæ and water (1 to 8), as recommended by Dr. Parkes. When the capsule is dense, the same author suggests the addition of a drop of weak hydrochloride acid. To see the coiled up worm itself all that is necessary is a good pocket lens."—*North Carolina Medical Journal*, August, 1879.

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A Russian physician, M. Malacvsky, struck by the prevalence of short-sightedness among literary men, proposes that books should be printed in white ink on black paper, and he has made experiments with fifty persons which tend to confirm his view.—*Weekly London Times.*

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## NOTE ON SULPHUR PRÆCIPITATUM (MILK OF SULPHUR) AS A TOPICAL APPLICATION IN DIPHTHERIA.

By JOHN A. ERSKINE STUART, L.R.C.S.E., Dunse, N. B.

Since writing the former paper on this subject, I have treated several cases in the same manner, and with like excellent results. I now find that to rub the sulphur up with a little water and apply it on a swab to the throat, is the easiest and safest method of application, for in blowing the dry substance on the throat it was sometimes not so easy to get it on to the desired spot, and besides, the patient, especially if a child, was very apt to cough up sputa in your face, a most dangerous proceeding. In addition to this, I am of opinion that the moistened sulphur

sticks better to the throat than the dry substance, and this is, I think, the advantage which a solid antiseptic has over a fluid, viz., that it exerts its action for a longer time, and this, I think, is also in favor of the method of treatment, where powdered benzoate of soda is blown on to the throat.

In using Sulphur Præcipitatum we get a substance which, being free from grittiness, is more agreeable to the patient. To show the rapidity with which the disease disappeared, when treated in this way, I find that of six cases under this method successfully treated, the average number of visits required from me was 2.5, an extraordinary statement, but one which is perfectly correct.

My former paper has been criticised by both the *Medical Record* and *Braithwaite's Retrospect.* The writers there both seem to think that friction is an important factor in the cure; but no friction has been used by me.

My belief in this method of treatment is strong, from the fact that I have seen some most sudden deaths from the disease, where muriate of iron and chlorate of potash were pushed to a great extent, as also where sulphurous acid was used; and in these no benefit seemed to result from their use, whereas every case I have treated with sulphur has made a rapid recovery as soon as it was tried.—*Practitioner*, Oct. '79.

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### SIR WILLIAM GULL'S COUGH MIXTURE.

This preparation, said to be efficacious in whooping-cough, is composed of equal parts of cod-liver oil, honey, and lemon juice. Dose: a teaspoonful or two, according to age, three times a day.—*Boston Journal of Chemistry*, November.

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### HIGHLAND MALARIAL OR MUSHROOM FEVER.

By J. G. Westmoreland, M.D., Atlanta, Ga.

During the past summer and up to this time, a fever of peculiar type and in some neighborhoods of malignant character, has prevailed in this and several surrounding counties. In some portions of Paulding, Polk, Cobb and Cherokee counties the mortality has amounted to fifty per cent. of the cases. It is remarkable that quite a number of cases occurred in Fulton county, but very few, if any, within the city limits of Atlanta. It seems, therefore, that in this instance, at any rate, the densely populated city has proved more healthy than the surrounding sparsely settled country, where no cesspools nor stinking sewers are known. Strange, doubtless, this will appear to those finding fever in every sewer and diphtheria in every gutter around town.

To those accustomed to marsh malarial fever the disease referred to comes with surprise. On the highest, dry, and ordinarily salubrious sections, this fever prevails with severity,

equal to that of low, damp localities. The great question with the people and with doctors are, what is it, and from what cause does it come? It does not assume the usual characteristics of typhoid fever in every respect, nor is it controlled by quinine so perfectly as intermittent or remittent fever. While the nervous disturbance somewhat resembles that of typhoid, yet the usual duration being only two weeks, makes it differ essentially from this disease.

In 1847 the same fever, exactly, prevailed in some counties of Middle Georgia, and again in 1866, the identical peculiarities were observed in a form of fever which prevailed to some extent in the neighborhood of Atlanta.

During the months of July and August, 1847, and in the same months of the present year, the greatest number of mushrooms were seen all over the uncultivated land of the forest. So abundant were they in both of the years referred to that casual observers wondered at the immense number of "frog-stools" seen in the woods. The experience of 1847 gave the writer good reason for predicting troublesome fever to follow the appearance of the large crop of cryptograms in 1879, and it has been signally verified.

It is, therefore, reasonable to suppose the fever in question has had its cause in the germs or sporules of the numerous cryptogams mentioned. It is known that the mushrooms is the growth of a night and has the duration of a day. Falling down, the innumerable spores rise and are wafted by the breeze so as to infect the atmosphere in the neighborhood around. The fever coming on at a suitable time after the breaking down and drying of mushrooms, and assuming features different from typhoid and marsh-malarial fevers, the conclusion seems just that there is something more than coincidence in these things. The opinion of cause and effect is greatly strengthened by some co-existing circumstances in 1847 as well as 1879.

The Salisbury theory of marsh-malarial fever, which has been ridiculed almost into oblivion, perhaps unjustly, was founded on its cryptogamous origin. If true, the fungus is, of course, belonging to a different variety than that found on the hills producing the two-weeks fever, the name of which heads this article; or undergoes modification by being drifted by washings of fields and current of streams to the marsh, from which its spores are wafted through the atmosphere. This difference or modification is seen in the difference of character in the disease produced by them. While marsh-malarial fever is intermittent or remittent, and cut short by quinine, the highland malarial or mushroom fever runs its usual course despite large quantities of quinine, and does not usually observe diurnal intermissions or remissions. No abortive treatment has yet been discovered for the highland two-weeks fever. The course found most satisfactory is that of mercurials to a limited

extent, blisters to nape of the neck, veratrum, and unloading the bowels by enemata.

The various varieties of "the fever" certainly are the result of a poisoned or in some way deranged condition of the nervous centres at some point, as poisons as well as mild remedies affect some particular portion of the body by an elective tendency to that organ. Not only is their action confined to a particular organ, but even to a particular part of a system. Thus strychnine affects the spinal centre of the nervous system, while opium, hyocyamus and chloroform affect the cranial centre. Now, it may be that the different poisons or their modification, affect particular portions of the nervous system or even a different part of the same centre. While marsh-malarial deranges the spinal cord, the cause of typhoid fever evidently impresses some of the cranial centres. One being intermittent of one week's duration, and cured by spinal tonics, the other continued and runs a period of three weeks. May not the highland cryptogams affect an intermediate point, and hence intermediate in duration, etc?—*Atlanta Medical and Surgical Journal*, November.

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## THE DECAY OF THE EMOTIONS.

In reading history, one cannot but be struck with the decay of the emotions which has taken place in the last few centuries, say since the rise of national literatures. Men do not love or fear, hate or enjoy, with the violence they once did. The whole tone of modern life is against such emotional excess. We see in this age the charge of the Light Brigade through a valley raked by cannon shot; but the individual soldier is seized by no such fury as the *Berserkerwuth* of the Northmen. Men pursue their purposes with no less tenacity, and with undiminished unscrupulousness, but the passion of revenge, which played such a prominent part in the days of yore, is now next to obsolete. In the autobiography of Benvenuto Cellini, that great artist informs us that after an insult he was seized with a sort of fever or delirium, which could not be appeased until he had wreaked his resentment.

Many instances are on record of persons dying outright from grief, or joy, or disappointment, while now-a-days such occurrences are extremely rare. Several such are recorded in the *Memoires* of the Marechal de Vielleville, a leading French General of the Sixteenth century. On one occasion he had surprised and captured a young Spaniard who had charge of an outlying post. It was under circumstances of a nature to entail severe censure on the captive, for carelessness. Although unhurt and in good health, he died, of mere grief, the first night of his captivity. Examples are not rare where a courtier forbidden the royal presence presently died of mortification. They seemed less able to hold out against moral reverses than now.

It is evident that to-day men are less apt to act on impulse than formerly. They weigh and ponder more. This powerfully affects their viability, and is unquestionably an important factor in the longer lives that modern generations have. With this comes a much greater tolerance of disease and of unhealthy surroundings. Less easily depressed, with more hope and better grounds for it, they do not yield to the depressing and often fatal effects of fear and despair.

Evidently, therefore, the decay of the emotions is a hygienic advantage. It means the increased power of the intellectual elements of mind. It is a sign of progress, and as closely associated with greater tenacity of life, is one which the physician should foster. In marked neurotic temperaments the control of the emotion is the most difficult lesson to learn, but is essential to safety. Self-government is not attained until the actions are guided by thought rather than impulse; and the improvement of the individual or the race is conditioned on personal self government.—*Med. and Surg. Reporter*, Nov. 29.

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## AN ARGUMENT FOR THE GERM THEORY.

It is curious to note how often very unwholesome conditions are found to be coëxistent in a district with a low death-rate and an immunity from fatal infectious disease. One such instance, at Lymington, we alluded to not very long ago, and two other cases of the same kind have been recently reported to the Local Government Board by Dr. Blaxall and Mr. T. C. Langdon, as existing at Okehampton and in the Wells Rural Sanitary District respectively. At Okehampton the water-supply is exposed to pollution from the direct communication which exists between the mains of the closets, and the sewerage is most defective and imperfect. The sewers are unventilated, and the arrangements for flushing are for the most part unsatisfactory. The privies, which are used where sewers do not exist, are of the most objectionable description, differing only in degree of unwholesomeness. The contents are allowed to accumulate for an indefinite period, while the privy-structures generally present every stage of delapidation. Pigs are very commonly kept, often in unwholesome relation to dwellings, and usually in a very filthy and neglected condition. The floors of many of the dwellings are damp, which probably accounts for the exceptional prevalence of rheumatism in the town. Certain of the houses are very delapidated, and most of them are surrounded by conditions greatly prejudicial to the health. Yet the death-rate for the two years 1876 and 1878 was 17 per 1,000, and that for the intermediate year only 12.5 per 1,000, zymotic diseases being conspicuous by their absence. As Dr. Blaxall points out, however, this favorable result must not be allowed to lull the authority into a sense of false security, seeing that *the conditions revealed as every where present in their midst are the very con-*

*ditions which are recognized as favorable to the development and spread of infectious disease*, especially cholera and enteric fevers; and these diseases introduced into the town would be liable at any time, with the existing state of things, to become widespread and fatal.

In his report on the Wells Rural District, Mr. Langdon shows that, notwithstanding the low death-rate of the district (14 per 1,000), many unwholesome conditions exist that may foster the recurrence of preventable diseases. The water-supply of some parts of the districts is much contaminated, and in others so circumstanced that it is liable to pollution by means of excremental and surface soakage. Although there is in many places an abundance of water, yet it is often not available for the purposes of the population, and where springs are used they are not sufficiently protected. Very generally the means of sewerage and drainage are defective. The privies are faulty in construction, and occasion much nuisance; and indeed the action of the sanitary authority seems to have been generally very imperfect.

[The heading of this extract from the British Medical Journal sounds like a sarcasm. The facts cited are curious, but not corroborative of the prevalent belief in the necessity of drainage and pure drinking-water to secure health.]—*Louisville Medical News*, Nov. 8.

## EDITORIAL.

We offer our subscribers the customary New Year's compliments and good wishes for themselves and "theirs;" employing the last word in its most inclusive sense. If 1880 should only perpetuate through its course, the peaceful prosperity of its predecessor, our profession may go on advancing in usefulness and knowledge without any distraction or impediment. Indeed the opportunity is offered in 1880 to gather the greatest amount, and most valuable of medical statistics ever obtained in this country. As our readers are aware it is the decade upon which our national census is to be taken. The excellent superintendent includes in the statistics required an amount, and character of information upon medical subjects, never before sought to be obtained. The success or failure of his efforts depends so much upon the co-operation of our profession that

the responsibility of the result may be chargeable to us. Let us endeavor to secure the best attainable results.

Those of our readers who have not been supplied with the census circular to physicians, can obtain them by addressing Gen. Walker, Superintendent of Census Bureau, Washington, D. C.

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## DOUBLE PNEUMONIA AND ABORTION.

On the 11th of March I was called to see, with another physician, a white woman, aged 33 years; skin very hot, both cheeks flushed, eyes suffused, respiration about 23, pulse 120. Complained of severe pain in both sides of the chest. Cough constantly. Both sides dull on percussion, right side more involved. Respiratory murmur at upper part of both lungs very loud, accompanied by some fine crepitation. Tongue very broad and flat, deeply furrowed in centre, base covered with a dense, dirty, brownish fur, lips red, breath very offensive. Diagnosed double pneumonia. Ordered a large mush poultice, to cover both sides of the thorax, to be as hot as the patient could endure it. Acetate of ammonia, in one drachm doses, to be given every three hours. Five grains of dextro-quinine every six hours. Eleven A. M. next day pulse was 120. Right lung more involved, pain more acute, respiration more rapid, mouth dry, tongue more brown, fissure deeper, heat of skin 103½. Ordered poultice to be continued, and increased my dose of dextro-quinine to twelve grains, to be given at once, and repeated in four hours. At nine P. M. saw the patient; complained of diarrhœa. Three doses of dextro-quinine were taken, and the symptoms were much improved. For the diarrhœa a few drops of Monsell's solution of iron were ordered every hour. Nourishment principally consisting of milk. Dextro-quinine was given only twice during the night. On the morning of the 12th symptoms much improved, though the dullness was as great, but heat and restlessness abated somewhat; diarrhœa under control. During the next two days the acetate of ammonia was continued in one-drachm doses, every four hours, five grains of dextro-quinine to be given three times a day.

On the 15th I was called in haste to her. Found pulse 135, respiration very rapid, skin very hot; two slight convulsions came on while I was with her. Ordered beef tea and milk to be given frequently, in small quantities. Tincture of veratrum was given in small doses every hour. Four o'clock I saw her again; was told that labor pains were on her. She was four months advanced. Made a vaginal examination, and found the os dilated, perineum soft and yielding, but little hemorrhage, and before I feft the house the fœtus was expelled minus the placenta. The shock this abortion inflicted on the system was fearful; she became semi-comatose, pulse went up to 150, small and thready, breathing diaphragmatic. Several convulsions then came on. Hard ones were on her in twenty minutes or more. Face was pale, skin of body intensely hot, while the extremities were cold. Something had to be done forewith, and as I put about as much faith in dextro-quinine as most men do in a good brake on an express train, I poured out what I thought to be a good twenty-grain dose of that drug, which was dissolved in a solution of tartaric acid, and poured it down her throat. This was repeated in an hour. It was certainly marvelous to witness the effects produced. In two hours the pulse was reduced forty beats, and the skin much cooler. Though the convulsions did not entirely subside in that time, they were very much lessened. In three hours more I gave her ten grains again; by night she recovered her senses. Next day I found, to my surprise, that there was very much less solidness of lung than at any other time since I first saw her. I removed the placenta with a hook this day; but very little hemorrhage occurred at any time. The dextro-quinine was now combined with Squibb's tincture of iron, five grains to thirty drops every three hours. From this time on the convalescence went on uninterruptedly. I make no comments on this case, but would ask the attention of the profession to the line of treatment followed, which I believe will be found a successful one in cases, both of double pneumonia, pleuro-pneumonia, intermittent fever, and allied diseases.—*Medical and Surgical Reporter*, December, 1879.

L. A. Rutherford, M.D.

# OBITUARY.

## Thomas Kennard, M. D.

At a meeting of the St. Louis Medical Society, the following was pased as an expression of respect to the memory of Dr. Thomas Kennard:

With a deep sense of the sad and irreparable loss we have sustained in the death of Thomas Kennard, Ex-President and honored member of this Society, we give expression to grief and record

IN MEMORIAM

this tribute to his manly virtues and excellencies, and to his professional capacity, attainments and standing.

Nature cast him in no diminutive mould; lavish of her gifts, he was not denied ability to acquire knowledge from books, but added thereto the capacity to create it by observations and expierence. Thorough literary training and extensive reading formed an appropriate basis for his professional education. Assiduously he kept pace with the rapid progress of sciencific medicine; patiently and energetically he practiced the art with enviable success.

Cosmopolitan in all of his views, the elevation of the standard of medicine was near to his heart, and while he inculcated needful professional reform, he demanded for medicine a more just recognition of its relations to government, society and the other noble professions, an enlightened secular and religious press, and an intelligent public. And for the welfare of profession and people he desired the safeguards and protection of wise legislation.

Eminently characteristic of our lamented brother was the bold and fearless advocacy of his views. He wielded a free lance, neither giving nor asking quarter. Concise, condensed and incisive, he grasped the gist and marrow of a subject, and whether in its presentation or defence wielded with grace and precision the weapons of debate. As he spoke so did he write, and his frequent contributions to our Journals and the various monographs emanating from his pen have elicited merited praise and remain an enduring monument to the enlarged views and ability of the writer.

For the administration of affairs he was singularly well adapted, and whether as President of the Society or Chairman of its important committee, he exhibited an acquaintance with parliamentary law and the routine of business which harmonized action and attained results.

Honest and honorable in all of his dealings, he strictly obeyed the spirit and letter of our ethics, and in professional intercourse he was marked by exceeding fairness and respect for others.

Capable, truthful and sceintific himself, he despised quackery in all its forms, and his deep censure, mingled with contempt, fell heavily upon hypocrisy and pretension.

A man of strong character, it was not astonishing that he had devoted friends and decided enemies. The former testify to his kindly and affectionate nature, while the latter find more to admire than to condemn.

Only close association elicited a full knowledge of the gentle, kindly disposition which underlaid the sometimes harsh and severe exterior presented by our deceased brother.

He was, without ostentation, charitable, not only in speech, but in acts.

A strong man has fallen! A counsellor, friend and leader is lost to us forever! We sorrow with the family of our deceased brother, and offering this tribute to his memory, tender our condolences and express a hope that on "the other shore" he "rests from his labors" and reaps the reward of the just.

## Proceedings of the Attakapas Medical Association.

NEW IBERIA, Nov. 27, 1879.

SECOND MEETING.

The Attakapas Medical Association was called to order at 1 o'clock P. M., President Dr. A. Duperier in the chair, and a quorum present. The minutes of the last meeting were read and approved.

The Secretary reported that pursuant to orders received at the last meeting, he had addressed a circular letter to the several physicians of the Attakapas parishes, inviting them to attend the next meeting of the association at New Iberia, on the 27th of November.

The Secretary again reported that several physicians from the parishes of St. Martin and St. Mary were present, and were ready to participate in the organization.

The Secretary also reported that quite a number of letters had been received in answer to his circular address; all approving of the move of the society, and promising support and co-operation. These letters were read and ordered to be recorded.

The society then proceeded to complete its permanent organization.

On motion, duly made and seconded, it was

*Resolved*, That a committee on credentials be appointed. Motion adopted.

The Chair appointed Dr. Colgin and Dr. Woolf, of New Iberia, on said committee.

After the verification of the diplomas by the committee on credentials, the members came forward and signed the Constitution and By-Laws.

The meeting then proceeded to regular order of business.

On motion of Dr. Woolf, duly made and seconded, the Secretary was requested to inform the Louisiana State Medical Association, and the New Orleans Medical Society of the organization of this association. Motion adopted.

On motion, duly made and seconded, Dr. J. G. Mestayer offered the following:

*Resolved*, That the second article of the Constitution be read. Motion adopted.

The article was read as follows:

The objects of this association shall be the pursuit and cultivation of the practice of medicine, and the sciences on which the same is based, together with the defence of rights and the elevation of the dignity of the medical profession; also, the protection of the professional interests of its members, and the cultivation of harmony and fraternal feeling among the members of the profession within its boundaries.

On motion of Dr. M. W. Richardson, duly made and seconded, it was

*Resolved*, That a committee be appointed, whose duty it shall be to examine the statutes of the State, and if found necessary, to draw up a petition to the Legislature, at its next meeting, requesting that a law be passed for the protection of the qualified and regular practice of medicine, against quackery, and the unqualified practice of medicine, midwifery and surgery within the State.

*Resolved*, *also*, That the President of this Society be the chairman of that committee. Motion adopted.

The Chair appointed on this committee Drs. Richardson and Colgin, of Iberia; Dr. Maguire, of St. Mary, and Dr. Thomas, of St. Martin.

On motion of Dr. Blanchet, duly made and seconded, it was

*Resolved*, That a committee of three be appointed to draw up a schedule of regular prizes for the practice of medicine in the Attakapas parishes. Motion adopted.

The Chair appointed on the committee Drs. Blanchet, A. Maguire and F. Thomas.

On motion of Dr. Thomas, duly made and seconded, the Secretary was requested to have the minutes of this meeting published in the local papers, and to have a copy of the same sent to the several physicians of Attakapas. Motion adopted.

Dr. Mestayer offered for examination a case of exstrophy of the bladder.

Dr. Maguire made a verbal report of the cases of yellow fever in Cypremort, and was invited to make a written report of those interesting cases to the National Board of Health, and was also requested to present the same at the next meeting of this Association.

On a vote of the majority, the society decided to hold the next meeting in New Iberia.

On motion of Dr. Thomas, duly made and seconded, the meeting then adjourned until March 4th, 1880.

DR. G. BLANCHET,
*Secretary.*

# Reviews and Book Notices.

*Diseases of Women.* By Lawson Tait, F. R. C. S., Surgeon to Birmingham Hospital for Women; member of the Obstetrical Societies of London, Dublin, and Edinburg; author of the Hastings Essay for 1873, etc. Second edition, thoroughly revised and enlarged. Specially prepared for "Woods Library." 8vo. pp. 192. New York: William Wood & Co. New Orleans: Armand Hawkins, Medical Book-seller, 196½ Canal street.

What high-heeled boots are to short men thick paper is to short books. The volume before us is of the set known generally to the profession as Woods Library of Standard Medical Authors, and corresponds in size and binding to Hilton on "Rest and Pain," which contains 299 pages, We are not finding fault with the work—for it is a much larger book than it appears to be. It contains large and important facts, and systematic and conscientious teachings.

The arrangement of the work is peculiar in some respects. The various subjects are taken up in the natural following order: I, Mons Veneris; II, Vulva; III, Vagina; IV, Uterus; V, Broad Ligaments; VI, Fallopian Tubes; VII, Ovaries; VIII, Pelvic Bones; IX, Dilatation of the Cervix Uteri by continuous elastic pressure.

Under these headings the diseases of each locality and organ are taken up and practically treated. Time and again does the author give valuable information by citing cases occurring in his own practice where his mistakes proved valuable lessons. Tait's teachings are sound and the ease and simplicity of his writings will render his work a valuable addition to medical libraries.

*A Manual of Midwifery for Midwives and Medical Students.* By Fancourt Barnes, M.D., F. R. C. P. 12mo. pp. 201. Philadelphia: H. C. Lea. New Orleans: Armand Hawkins, Medical Book Store, 196½ Canal street.

This little work from the practical character of its teachings will meet with favor from those for whom it was written and also from graduates of medicine. But we believe authors make mistakes in bringing such works to the attention of students for the reason that brevity and not thoroughness seems to be the object aimed at, and careful attention only to elaborate treatises on medical subjects will fit the student for complete appreciation of the facts brought flippantly to their notice by pocket editions of special subjects. The work is well and clearly written and, as far as it goes, had much to recommend it.

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*Photographic Illustration of Skin Diseases.* By George Henry Fox, A.M., M.D., Clin. Prof. Dermatology, Starling Med. Col., Columbus. O., Surgeon to N. Y. Dispensary, Department of Skin and Venereal Diseases, etc. 4to. New York: E. B. Treat. 1879. [Sold by N. D. McDonald & Co., 116 Carondelet street, N. O., and 45 Broad street, Charleston, S. C.]

The illustrations of this work are executed from negatives taken of actual cases, and colored by Dr. J. Gaertner, formerly a student and physician under Hebra at Vienna. These have been selected from a collection of several thousand taken by by Mr. O. C. Mason, Photographic Artist to the Bellevue Hospital, during the last ten years, and from other sources at the command of the author.

The work consists of twelve monthly parts, each consisting of four plates, with two pages of printed matter accompanying each plate, descriptive of the diseases and suggesting appropriate treatment. The four parts already issued treat of the following affections: I. Comedo, Acne Vulgaris, Lepra Tuberosa, Elephantiasis; II. Keloid, Rosacea, Psoriasis, Ichthyosis; III. Fibroma Pendulum. Varicella, Zoster Pectoralis and Lumbalis, Eczema Universale; IV. Leucoderma, Chromophytosis, Favuo, Capitis and F. Corporis, Eczema Cruris.

The prominent feature of the work is the illustrations, which

are far superior to any others that have come under our notice. By the use of card-board, 10x12 inches, there is ample room for a large picture, and the skillful coloring of the artist superadded to the fidelity of the photographic process renders the illustration the best substitute possible for the living subject.

S. S. H.

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*Annual Address of the President of the Kentucky Medical Society. delivered at Louisville, Ky., May* 10, 1879. By Dr. C. H. Todd, of Owensboro, Ky., 8 vo., pp. 8.

The subject of the address is State Medicine, particularly those branches relating to Public Hygiene and Medical Education. It appears that there is in Kentucky a State Board of Health appointed by the Governor, and Local Boards appointed by the County Judges; but these boards are not clothed with power to enforce sanitary measures. Dr. Todd would vest the appointment of the State Board in the State Medical Society, and that of the Local Boards in the physicians of the several counties. The members of these several boards should all be physicians, and the civil authorities should be required to carry out the instructions of their medical advisers, the Board of Health.

In the second branch of his subject Dr. Todd makes a plea for a higher education in our profession, commencing with the preliminary course.

We like to see this subject of State Medicine agitated in our profession. Physicians all acknowledge its importance, but it is only by incessant reiteration of arguments by a few indefatigable workers, that the great mass are ever moved to earnest effort resulting in appreciable progress.

## Books and Pamphlets Received.

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*Annual Address before the American Academy of Medicine at New York, September 16th*, 1879. By Lewis H. Steiner, A. M. M. D., of Frederick, Md., President of the Academy, Perma-

nent Member American Medical Association, Fellow American Association for Advancement of Science, etc., etc.

*Infant Feeding and its Influence on Life or the Causes and Prevention of Infant Mortality.* By C. H. F. Routh, M. D., M. R. C. P. L., Fellow of University College, London, of the Medical, Medico-Chirurgical, and Obstetrical Societies, etc., etc.

*Transactions of the Twenty-ninth Anniversary Meeting of the Illinois State Medical Society, Session* 1879.

*Transactions of the Medical Society of the State of Pennsylvania at its Thirtieth Annual Session. May*, 1879.

*Transactions of the Mississippi State Medical Association, XII. Annual Session, April 1st, 2d and 3d*, 1879.

*Biographical Dictionary of American Physicians and Surgeons.* By William B. Atkinson, M. D., Permanent Secretary of the American Medical Association, and of the Medical Society of the State of Pennsylvania, etc., etc.

*Report of the Results in Thirty-one Cases of Phthisis, treated at Aiken, S. C., during the Season*, 1878, '79. By W. H. Geddings, M. D., Aiken, S. C. Reprint from the Medical Record, November 15th, 1879.

*Ninety-Seventh Annual Catalogue of the Medical School (Boston) of Harvard University*, 1879-80.

*A Clinical Inquiry into the Diagnostic Significance of Absent Patellar Tendon Reflex.* By C. H. Hughes, M. D. Reprint from the Alienist and Neurologist, January, 1880.

*Valedictory Address to the Graduating Class of the Medical Department of the University of California.* By W. F. McNutt, M. D., L. R. C. P. Ed., etc., etc., Professor of Principles and Practice of Medicine, Medical Department, University of California. Reprint from the Western Lancet, December, 1879.

*A Case of Complete Inversion of the Uterus, with Remarks upon the Modern Treatment of Chronic Inversion.* By Clifton E. Wing, M. D., Boston.

## Meteorological Summary—November, 1879.
## Station—New Orleans.

| Date. | Daily Mean Barometer. | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. |
|---|---|---|---|---|---|
| 1 | 30.30 | 60.0 | 59.0 | North. | .03 |
| 2 | 30.25 | 63 0 | 63.0 | N. E. | .18 |
| 3 | 30.27 | 60.7 | 53.3 | N. E. | .... |
| 4 | 30.30 | 57.2 | 54.3 | East. | .... |
| 5 | 30.22 | 63.5 | 74.3 | East. | .48 |
| 6 | 30.13 | 67.0 | 83.0 | S. W. | 1.33 |
| 7 | 30.06 | 67.2 | 78.0 | S. E. | ... |
| 8 | 30.02 | 72.0 | 79.7 | S. E. | .... |
| 9 | 30.15 | 73.2 | 86.7 | S. E. | .... |
| 10 | 30.14 | 73.0 | 91.7 | S. E. | .38 |
| 11 | 30.06 | 74.5 | 84.7 | S. E. | .... |
| 12 | 30.06 | 76.0 | 79.7 | S. E. | .... |
| 13 | 30.08 | 76.0 | 77.0 | S. E. | .... |
| 14 | 29.95 | 75.2 | 82.3 | South | .03 |
| 15 | 29.94 | 77.2 | 79.7 | S. W. | .... |
| 16 | 30.04 | 76.2 | 79.7 | S. E. | ... |
| 17 | 30.03 | 76.0 | 76.7 | S. E. | ... |
| 18 | 30.23 | 55.5 | 62.3 | North | .33 |
| 19 | 30.28 | 53.7 | 47.3 | N. W. | .... |
| 20 | 30.35 | 52.2 | 38.7 | North | ... |
| 21 | 30.32 | 51.5 | 51.0 | N. E. | .... |
| 22 | 30.27 | 54.7 | 56.0 | East. | .... |
| 23 | 30.31 | 59.2 | 61.7 | S. E. | .... |
| 24 | 30.30 | 61.0 | 66.7 | East. | .... |
| 25 | 30.28 | 63.5 | 67.3 | S. E. | .. |
| 26 | 30.20 | 66.2 | 74.7 | S. E. | .... |
| 27 | 30.06 | 70.5 | 87.0 | South | .... |
| 28 | 30.07 | 68.5 | 76.0 | South | 103 |
| 29 | 30.34 | 53.0 | 41.7 | North | .... |
| 30 | 30.35 | 50.5 | 54.0 | N. E. | .... |
| 31 | ..... | .... | .... | ..... | .... |
| Sums | | | | | |
| Means | 30.179 | 64.9 | 68.9 | S. E. | 3.79 |

### General Items.

Mean Barometer, 30.179.
Highest Barometer, 30.410, on 21st.
Lowest Barometer, 29.897, on 14th in.
Monthly Range of Barometer, 0.513
Highest Temperature, 82° on 13th, 15th.
Lowest Temperature, 38° on 21st.
Monthly Range of Temperature, 44°.
Greatest Daily Range of Temperature, 23° on 18th.
Least Daily Range of Temp., 9° on 10th
Mean of Maximum Temperatures, 71.1°
Mean of Minimum Temperatures, 57.3°
Mean Daily Range of Temp., 13.8°.
Prevailing Direction of Wind, S. E.
Total Movement of Wind, 5,983 miles.
Highest Velocity of Wind and Direction, 25 miles, North on 18th.
Number of Clear Days, 9.
Number of Fair Days, 10
Number of Cloudy days on which no Rain fell, 4.
Number of Cloudy Days on which Rain fell, 7. Total number of days on which rain fell, 11.

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871..... | | 1876..... | 59.2° |
| 1872..... | | 1877..... | 58.3° |
| 1873..... | 61.2° | 1878..... | 60.8° |
| 1874..... | 66.3° | 1879..... | 64.9° |
| 1875..... | 65.6° | 1880..... | |

COMPARATIVE PRECIPITATION.

| | | | |
|---|---|---|---|
| 1871..... | inches. | 1876.. | 4.35 inches |
| 1872..... | " | 1877.. | 6.58 " |
| 1873.. | 5.95 " | 1878.. | 7.78 " |
| 1874.. | 1.12 " | 1879.. | 3.79 " |
| 1875.. | 6.79 " | 1880..... | " |

## Mortality in New Orleans from November 23d, 1879, to December 21st, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| November 30. | 0 | 1 | 10 | 0 | 3 | 81 |
| December 7 | 0 | 2 | 15 | 0 | 12 | 100 |
| December 14. | 0 | 1 | 9 | 0 | 6 | 70 |
| December 21. | 0 | 2 | 9 | 0 | 8 | 111 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total.... | 0 | 6 | 43 | 0 | 29 | 362 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

## FEBRUARY, 1880.

## ORIGINAL COMMUNICATIONS.

### Pernicious Fever — Its Varieties and Treatment.

By J. P. DAVIDSON, M.D., New Orleans, La.

*(Read before the New Orleans Medical and Surgical Association.)*

The term pernicious is used by continental writers to designate a form of malarial fever which, in the Western and Southern parts of the United States, receives the appellation of congestive fever, and malignant intermittent fever. Both of these latter names are objectionable, as calculated to lead to erroneous views of the disease—in the one case implying that the essential pathological condition is congestion, from which all the other symptoms are derived, and from which all the danger is to be apprehended; in the other, that blood-poisoning and serious alterations of the fluids of the body, such as occur in typhus and other malignant diseases, would account for the severity of the disease and its fatality.

The term pernicious, while indicating the gravity of the disease, does not express any specific morbid condition, and is therefore free from such objection.

In all malarial regions of both hemisphers, under certain local conditions, and in seasons marked by a general prevalence of malarial fevers; when the simple and ordinary variety of intermittent fever abounds, cases of pernicious fever occur,

and at certain epochs the proportion of cases is more or less large and the fatality of the disease is great, making it one of the most dangerous diseases which the physican has to combat.

The disease has always been rife in the valley of the Mississippi river and its tributaries, and along the southern shores of the Northern lakes.

During the period of the transformation of the forests into cultivated fields in Louisiana, Mississippi, Arkansas, Alabama, Tennessee, and other States, pernicious fevers abounded epidemically, and though the disease is not now so general as formerly, they still occur frequently enough to render it a formidable variety of the endemic miasmatic fevers of our country.

While the simple and ordinary intermittent fever is comparatively void of danger, the disease from the mild type in the second or third paroxysm, often passes into that of pernicious fever. The physican should therefore always be on his guard and resort to such measures as will promptly break up the recurrence of the paroxysms.

Fortunately, in no disease involving as much danger as pernicious fever is efficient and timely treatment more successful.

The danger involved in the disease, however mild the incipiency of the intermittent paroxysms, must never be lost sight of.

Attacks of pernicious fever may take place at any season of the year; they occur, however, most frequently in the autumnal months, and in seasons when malarial fevers have abounded during the spring and summer.

The term pernicious has been limited commonly in our country to those forms of miasmatic fevers characterized by very sudden and great prostration, in which the innervation is extremely and dangerously disturbed, but continental writers have divided pernicious fever into many varieties, dependent upon the predominant features of organic disturbance in any case of malarial disease. Alibert and Contancean swell the list to as many as twenty varieties, embracing in it, intermittent fevers, the benignity of which is evident, such as "exanthemic, rheumatic, dysenteric, icteric," etc., etc., distinctions

not recognized in our country, and to which the term pernicious is of doubtful application.

In this city the term pernicious is also applied by some of our physicians of large experience and great reputation, to yellow fever, occuring among Creole children during an epidemical prevalence of the disease, and to which they assign the name of a recognized variety of pernicious miasmatic fever, the hæmorrhagic, contending that children born in the city are not amenable to yellow fever.

The more commonly recognized divisions of this form of miasmatic fever; designating symptomatic features of the disease in different cases, may be thus classed: The algid intermittent, the remittent, the comatose and the hæmorrhagic. To these a fifth has been added, the continued, or typho-malarial, but it is only after the fever has lasted several days that it can be said with any propriety to be continued, for, if the patient survive this period of the disease, it will almost certainly put on a paroxysmal type.

Most frequently the fever is either intermittent or remittent, and though often quotidian, its more common type is tertian.

All observers agree, that in the largest proportion of cases, pernicious fever begins as a mild and common type of intermittent fever, without the occurrence of any symptoms denoting special gravity, the cold stage, or chill, not commonly severe, or marked, and the hot stage being slight, or imperfectly developed. The period of intermission characterized by customary health, and a return to usual avocations. The mildness of the paroxysm preceding the invasion of a pernicious one, tending to mislead both the physician and patient of any attendant danger in the disease. Hence, the great importance at all times, but more particularly whenever cases of pernicious fever are known to prevail, of prompt measures to arrest the paroxysms. A second paroxysm may occur and if not arrested, the next one presents all the pernicious symptoms and may be rapidly fatal.

According to my own observation the third paroxysm is the one in which most commonly, the pernicious phenomena present themselves; though instances occur of the algid form in

which no reaction takes place from the first chill, the patient dying in that paroxysm.

The first symptoms of the disease are usually chilliness, cephalalgia, pains in the small of the back and limbs, intense thirst, flushes of heat, alternating with perspiration, frequent and irregular pulse, nausea, and often vomiting, with great jactation. These may be suddenly followed by more alarming symptoms denoting great danger.

The face, hands, and feet present a livid appearance, the eyes sunken, extremities icy cold, respiration hurried and irregular. The body covered with a profuse, cold, clammy sweat; the hands and fingers wrinkled as if long immersed in water, the skin about the ears, back of the neck, and the extremities purplish, from capillary stasis. The mind is commonly clear and undisturbed by delirium, but the patient is anxious and restless. Vomiting is frequent; every thing taken on the stomach being rejected; the matter ejected is rarely bilious, chiefly mucus, and sometimes consisting of blood, and a sense of burning heat or heartburn is complained of.

The sense of internal heat is extreme, and the chest and abdomen will be found to be warm, while the rest of the body is of icy coldness. The tongue is commonly pale, broad and flat, the edges indented by the teeth, and coated with a thick and whitish fur.

In this condition, the stomach will not usually tolerate stimulants, though from the feeble and oppressed action of the heart they are indicated; their administration, in many instances, giving rise to increased heart-burn and provoking vomiting. Owing to the perverted nervous condition, heat applied to the extremities, even the warmth of the hand, is unpleasant to the patient. The bowels, though sometimes confined, are almost always frequently moved, the dejections being copious, exhausting, watery, pinkish, and resembling in odor and color the washings of putrid meat.

This condition of collapse in pernicious fever closely resembles that of cholera, and both are probably due to a similar pathological condition—a lesion of innervation affecting the cerebro-spinal axis.

If no effort at reaction succeeds and remedies fail to bring it about, the respiration becomes slower and sighing, the cerebral functions give way, the countenance becomes hippocratic, hiccough takes place, and the patient gradually sinks into death.

It more frequently happens, however, that the symptoms of collapse, after enduring in a more modified degree than as above described, for several hours, are followed by symptoms of reaction, the heat of the body becomes gradually restored, the pulse acquires strength and volume, the vomiting and purging, if previously existing, abate or entirely disappear; a moderately warm perspiration is set up and the patient falls into a more or less calm sleep. A somewhat marked exacerbation takes place, but not always proportionate to the preceding depression of the vital powers.

This intermission, though it may retain no traces of the former state, in feelings of languor and nervous prostration, is only illusive, the disease temporarily receding, as it were, to return in the next paroxysm with redoubled force and with a fatal termination probably.

It not unfrequently happens, both in the intermittent and remittent forms of pernicious fever, that a paroxysm will run its course as in a mild type of malarial fever, but in the last stage the perspiration becomes very profuse and exhausting, the fever passing from a mild and ordinary form into a pernicious one.

The anatomical characters presenting themselves in this disease are quoted from the work of Dr. F. C. Maillot on intermittent fevers as observed by him in France, Corsica and Africa in 1836.

He found the arachnoid opaque and injected, the blood vessels of the brain injected, the substance of the brain increased in density and the cortical substance of a deep red color, the ventricals containing a bloody effusion of serum. The pia mater of both brain and spinal marrow and the substance of the spinal marrow generally injected, less firm than in the natural state, reddish softening to the extent of 8 or 10 lines from the edge of the last dorsal vertebra.

The mucous membrane of the stomach softened over its

whole extent, with thickening, and bright red or blackish, and in some instances the membrane pale. A similar condition of the mucous membrane of the duodenum and jejunum was found, the follicles enlarged without redness either recent or of long standing; sometimes patches of redness were observed.

The liver was variously affected, being either deep red and the tissue softened like that of the spleen, or enlarged, yellowish, dry and readily broken, or of enormous size and engorged with dark blood, or softened to the consistence of a paste. The spleen was always enlarged, either firm or reduced to a pulp (en une bouillie) the aspect of which resembled chocolate paste made with water, and in some instances the spleen was ruptured. The thoracic viscera were generally perfectly healthy.

The essential cause of pernicious fever, all writers upon it agree, is unquestionably the same as in all other forms of miasmatic fever, and its peculiar character has not been determined, but is supposed to "arise from a more intense action of the miasmatic poison."

The symptomatic phenomena in pernicious fever are ascribed "to the peculiar state of innervation, disturbing the due performance of the organic functions, and to which the congestion of the interior organs is also due, and not to any inflammatory condition, which is incompatible with the periodic alterations from disease to comparative health, so notable in this as in other forms of malarial fever."

Maillot states that M. Guérin de Mamers also regards intermittent as a neurosity of the cerebro-spinal centres, "says he, to a lesion of which belongs (se rattachent) the development and the reproduction of paroxysms, is not a phlegmasia, not even an irritation in the proper sense of this term, but only an abnormal excitation (in other words an unestablished and undecided irritation) of those parts of them (nerve centres) which control nervous influx." He continues: "The analysis of the symptoms conducts to the same point of view as the pathological anatomy, and we are thus brought to regard, with M. M. Royer, Guérin de Mamers, and others, intermittent fevers as an affection of the cerebro-spinal axis. But our opinion

differs from the learned observers, in that we think that this affection is something else than a neurosity. Relying on the pathological anatomy, we believe that it is an irritation which has the anatomical character of a hyperemia of the nervous substance and its envelopes."

He adds further, in treating of the lesions in the algid form of pernicious fever: "Very certainly, after all the facts that I have collected, the lesions in the spinal marrow are more marked (prononcées) in the algid than in the other varieties of pernicious fever"—summing up his reflections with this statement—"The active hyperemic irritation of the cerebro-spinal axis, is therefore what constitutes the nature, the essence of intermittent fevers, whether we study the mild types, or those which become pernicious by the direct lesion of the nervous system, or indeed those complicated with thoracic and abdominal irritations."

*Diagnosis.*—When we consider the great danger involved in this fever, over the simple and ordinary form of intermittent fever, a correct diagnosis is of the very utmost importance to the life of the patient; for, there is, perhaps, no disease involving equal danger to life in which successful treatment is more marked than in this.

When the disease is fully developed it can scarcely be mistaken, if the physician is on his guard, and realizes the fact that in all intermittent fevers, or bilious remittent fevers, pernicious symptoms may take place, and yield to treatment, or terminate with the paroxysm, only to return in the next with increased intensity, and when not apprehended, and guarded against promptly, proves fatal.

Mallot propounds this question: "Can we determine beforehand, and from the first paroxysm, whether an intermittent will become pernicious?" "I think not; frequently the invasion of a pernicious paroxysm gives no indication that it will prove of that character. Undoubtedly, one should apprehend a dangerous course, whenever the visceral irritations are intense, etc. For myself, I have often seen in the lapse of a day, without intermediate indications, pernicious paroxysms succeed the most benign."

We should be very wrong in supposing that pernicious fevers are ordinarily only fatal until the third or fourth paroxysms. Nevertheless it does occur, that certain indications of a threatened pernicious character of the disease frequently reveal themselves in the first paroxism, and should not be misinterpreted or disregarded. "Such as the absence of any sense of chilliness, or of rigors, with prolonged coolness of the extremities, unequal distribution of heat, nausea or vomiting, with frequent, large and liquid stools, great restlessness, a small, frequent and irregular pulse, with either wakefulness and slight delirium or undue somnolency." During the apyrexia, the continuance of any of the above symptoms should awaken the solicitude and apprehension of the physician, and induce him to interpose promptly such measures as will avert the danger of a recurring paroxysm.

*Treatment*—Called to see a patient in the first paroxysm; the endeavor should be to bring about reaction as speedily as possible, and to endeavor to counteract the extreme nervous depression. Formerly, under the pathological view of congestion, and under the theory of fevers as inculcated by Brussais, referring them all to a primary gastric irritation, the abstraction of blood was practiced both from the arm and by leeches to the epigastrium and the temples. Bleeding was also resorted to during the cold stage with a view to a relief of the congested vessels. This practice, under later pathological views and the want of success, has been wholly abandoned, except in cerebral cases, marked by coma with a full and corded pulse, in which cases the abstraction of blood, both generally and topically, may be resorted to beneficially, and bladders of ice should be applied to the head.

Emetics have been recommended to arouse the system and bring on reaction; but these are of doubtful benefit and may do harm, if much gastric irritation and tenderness of the epigastrium exist.

Under the depressed state of the nervous system, with the frequent vomiting and purging so commonly present, cathartics and all other treatment of a debilitating character are contra-indicated. Dry heat applied to the extremities with fric-

tions of dry mustard, or mustard and red pepper, will be appropriate; and, if the stomach will bear it, stimulants may be administered at short intervals until evidence of reaction is perceived, when they should be discontinued or be given at longer intervals. My own experience has been that stimulants as a general rule are not well borne by the stomach, increase vomitting and are apt to prove injurious when reaction takes place.

If the purging is frequent, and the stools large and loose, resort should be had at once to opium in combination with quinine. Two grains of quinine and half a grain of opium in pill may be given every hour until the purging is controlled, and if the stomach will not tolerate the pill an enema of 40 or 60 drops of laudanum with 10 or 15 grains of tannin, mixed in three or four ounces of thin starch water, may be given; dry cups be applied to the epigastrium and a sinapism be applied over the whole abdomen. Frictions may be made at the same time with turpentine along the course of the spine.

Paramount to all other remedies, without waiting for the evidences of reaction, the sulphate of quinia should be at once administered, and the amount given at a dose should be apportioned to the gravity of the symptoms; always bearing in mind that under the perverted nervous condition of the organism, absorption is slow and much tolerance of the medicine may be relied on as a general rule. Twenty grains in pill form, alone or combined with capsicum, may be given every two or three hours until its effects on the nervous system are fully established, as indicated by deafness and tinitus aurium. Should the quinine not be borne by the stomach, it should be given hypodermically in doses of sufficient size, not less than five grains, repeated hourly until cinchonism is fully induced.

The hypodermic administration in my own hands has met with the objection of almost invariably giving rise to swelling and abcess, notwithstanding every care to effect a perfect solution of the crystals, and adopting the formula of Dr. Seguin, of New York, and of others of large experience in the hypodermic use of quinia.

Reliance may be placed on the administration of the sulphate of quinia by enema when the stomach rejects it. The dose should be as large as the bowel will be likely to tolerate. Sixty grains, with the addition of 20 or 40 drops of laudanum and an ounce of brandy may be mixed in four ounces of thin starch water or other mucilage, and given by enema at once. It is best to dissolve the quinia by the addition of a few drops of acid to faciliate its absorption. The laudanum, in combination with the quinia, is appropriate when the tendency to purging exists and favors the retention of the enema.

The contra-indication of the administration of opium to control the purging, would be any decided cerebral symptoms, in which case resort may be had to any of the vegetable astringents, combined with chalk or bismuth, and either tannin or the acetate of lead may be combined with the quinia given by enema.

Should reaction be established by these measures, and the paroxysm pass off, as is often the case in the first paroxysms of the disease, care must be taken, during the apyrexia, to continue the quinia in sufficient amount, from 10 to 20 grains, at intervals of three or four hours, so as to keep up cinchonism and ward off another paroxysm. The extremities should be kept warm by the application of heat, and warm drinks be given, and thus endeavor to keep off chill.

Under treatment of this kind the paroxysms of a pernicious tendency may be interrupted; promptness and boldness in the administration of quinia being of the very utmost importance, but without pushing its exhibition to the herculean doses commended by some physicians, from which it should be borne in mind permanent deafness has ensued.

In cases of the algid form of the disease, in which the symptoms of collapse manifest themselves early, I know of no plan of treatment calculated to meet the exigencies of the case, equal to the use of the cold douche. Its use has been strongly urged by many writers, and was practiced at an early period of the history of the disease in the Southern States.

No time is to be lost in relieving the patient of the lesion of

innervation and bringing about reaction. Delay in experimenting with stimulants, sinapisms, frictions, etc., is time thrown away, and will commonly disappoint the expectations of the physician. While the depressed condition of the heart's action continues, with the serum of the blood exuding through the paralyzed capillaries of the whole mucous lining of the bowels, and the copious transudation through the skin, exhausting the patient, and deepening the collapse, calorification is difficult to restore; all means, therefore, of arousing the energies of the nervous system short of the shock produced by the cold douche, properly administered, will avail but little.

As the best way of illustrating the procedure practiced by me in such cases, I cite the following case:

Mr. J. N., a planter, of middle age, robust in form, and of general good health, was attacked in the month of October, with a tertian intermittent fever, and was attended by Dr. L., a physician of standing and long experience in the profession.

The paroxysms were marked by no special indications of any tendency to a pernicious form, beyond the continuance, during the periods of intermission, of some degree of restlessness and nausea.

His physician had applied wet cups to the epigastrium; gave the patient calomel and administered quinia in full doses during the apyrexia.

In the third paroxysm, which took place early in the forenoon, the patient passed suddenly into a collapsed state, and about 3 o'clock, P. M., I was called to see the patient in consultation.

I found him in a calm frame of mind, suffering no acute pain, but complaining of a sense of oppression and stricture about the chest; the respiration was frequent with a double effort at inspiration. He complained of nausea and heartburn, attended with a feeling of great internal heat, accompanied with intense thirst. The pulse thread-like, rapid and hardly perceptible at the wrist; eyes sunken, voice puerile, skin bedewed with a cold, clammy sweat; the extremities very cold, the skin about the ears, back of the neck and the extremities of a purplish, livid hue, and the integuments of the hands and

fingers wrinkled, as if they had been immersed in water. The jactatation was very great, and the bowels running off, the stools being copious and liquid ; the tongue was coated with a thick white fur, pale and broad. The surface of the chest and the abdomen was warm. Under the perverted nervous condition characteristic of this collapsed state, all warmth applied to the cold surface was unpleasant, and the patient complained even of the heat of the hand when applied to the pulse.

Informed by his physician of the almost hopelessness of his case, he had summoned his pastor, a Presbyterian minister, who was at his bed side when I entered the room.

I determined to use the cold douche to which Dr. L. consented, the patient being left in my charge while the doctor visited his family. It was practiced in this way :

The patient, perfectly nude, was laid supine on a blanket stretched upon the floor. A large tub of very cold water, procured from an abundant and shaded spring was provided, and standing at his head, I threw a large bucketful of water with considerable force from his chest downwards. The shock was severe, but not unpleasant, as he afterwards informed me. Four bucketfuls in rapid succession were thus applied, and the patient replaced in bed upon a sheet, and thoroughly rubbed dry, after which the sheet was removed and blankets placed over him. An enema, containing 60 grains of quinine, 40 drops of laudanum, an ounce of brandy, in 4 ounces of thin starch water, was thrown up the bowels and a compress held to the person to assist in its retention. Bottles of hot water were applied to the feet, and the whole surface of the body and extremities rubbed briskly with dry mustard. Brandy toddy was administered in small draughts, but discontinued, as it gave rise to burning sensation in the stomach and brought on nausea.

The immediate effect of the douche was evinced in diminishing the frequency and irregularity of the respiration, allaying the thirst and jactatation and temporarily raising the pulse, which could be felt somewhat more distinctly at the wrist.

The enema was passed in about forty minutes with a con-

siderable thin dejection. Shortly afterwards all the restlessness and disquiet returned with the previous interrupted and hurried respiration.

The douche was again resorted to, the patient himself anxiously calling for it, and desiring that he should receive it in a prone position. Four more bucketfuls of water were dashed upon him, and, when replaced in bed, the enema, with 60 grains of quinia, 60 drops of laudanum and one ounce of brandy, was at once given and the dry heat to the extremities and frictions repeated as before.

The reaction was somewhat more marked after this douche, the patient expressing decided relief from the sense of internal heat, the respiration becoming slower and more regular, and the pulse could be felt distinctly enough to be counted, with some feeling of returning power. Though some retching occasionally took place no vomiting occured, but the patient spat off quite frequently an white frothy mucus.

At the expiration of two hours, notwithstanding the persistent use of the frictions, to the extremities, and with turpentine along the course of the spine, and a cautious repetition of the brandy toddy, what was gained by the last douche seemed to be disappearing. It was again repeated and carried to the same extent and in the same posture. The enema having been retained, it was deemed best to repeat the quinia in the same dose and with the adjuvants before named, care being taken to have it retained. Heat was applied to the extremities and the frictions were continued. Not long afterwards the patient fell into a calm sleep which lasted a short time. Reaction steadily progressed, the pulse developing and the heat of the trunk gradually extending to the extremities. From this time forth all the untoward symptoms, little by little, passed away, and the escape of the patient, from the peril in which he had been so suddenly plunged, was assured.

The reaction became full and complete, and the patient, throughout the next day, was able to take appropriate nourishment and to retain several doses of quinine, 10 grains being given at intervals of three and four hours to keep up cinchonism and prevent another paroxysm. No further medication was

needed in the case beyond a dose of oil to move the bowels some days afterwards.

The cold douche could not be indiscriminately practiced, and should be restricted to persons of sufficiently robust constitution to bear the shock, and whose vital powers had not been exhausted by long continuance of malarial or other disease. In a modified form, however, it could be beneficially used in many cases with whom the douche would be deemed hazardous,—as by the wet sheet or by cold sponging the whole surface of the body, rapidly practiced, and followed immediately by frictions, the administration of stimulants and the other measures advised.

Following the divisions of pernicious fever before announced, though "these diversities are to be regarded as symptomatic features of the same malarial disease occuring in pernicious paroxysms"—the comatose form of pernicious fever will be considered.

*Comatose Form*—In this form of pernicious fever the paroxysm is ushered in with drowsiness, severe pain in the head, coldness of the extremities, a somewhat full and resisting pulse, either preternaturally slow or quickened and often decided delirium.

As the fever developes, the cerebral disturbance deepens into profound coma. The respiration is labored, loud and sterterous, like that of apoplexy, and the pupils are dilated. These symptoms, as in the algid form of the disease, usually present themselves in he first paroxysm and may prove fatal.

If the paroxysm pursues its course, as soon as the sweating stage begins, the cerebral phenomena gradually decline, the brain is relieved of congestion, the patient returns to consciousness and a more or less distinct remission or intermission takes place; the dullness of mind and soporose feelings pass away. More commonly, however, there remain with the patient traces of the cerebral oppression from which he has emerged.

Though the comatose symptoms for the most part, manifest themselves with the invasion of the cold stage of the first paroxysm, I have known them to be delayed until the third parox-

ysm, following those of a benign character and ushered in with convulsions.

Maillot cites instances of epileptic convulsions in the paroxysms of this form of pernicious fever.

If the return of a paroxysm is not prevented, the recurrence is sure to be violent and is generally fatal.

The pathology of this form of pernicious fever, as far as our knowledge extends, does not differ from that of other forms of the disease.

The treatment is essentially the same as in pernicious intermittent fever. Blood, however, may be taken, either generally or topically, as the full and forcible condition of the pulse may warrant. The douche or the wet sheet will prove beneficial, and bladders of crushed ice should be kept to the head while the blood is invited to the lower extremeties by warm applications, synapisms, etc.

As soon as a remission or intermission begins, no time should be lost in the administration of quinia in the same way as was recommended in the algid form of intermittent fever.

### PERNICIOUS REMITTENT FEVER.

Pernicious remittent fever is to be regarded as differing from simple remittent fever, or bilious fever, not attended by any symptoms of a grave character, bringing it under the designation of pernicious. The fever presents the same diversities as characterize pernicious intermittent fever. The remittent course of the fever, usually distinctly marked, but often only denoted by the diminished frequency of the pulse and decline of malaise and suffering, constitutes the essential difference between the two diseases, as their causation and pathology are alike, and in their treatment call for the same remedial measures.

Pernicious remittent fever is, however, attended with more danger than pernicious intermittent fever, and is of a very fatal character.

In the limits of this paper it would be impossible to discuss the varieties of remittent fever of a pernicious type, as they are described by authors, under names derived from geographical

relations and conditions, such as the "Bengal fever," the "African fever," "Walcheren fever," etc.

The severe forms of remittent fever may be preceded by premonitory symptoms, such as languor, chilliness, restlessness, pain in the head, back and loins, pains in the epigastrium, nausea, and slow, small and irregular pulse. These symptoms are soon followed by a short cold stage. In other cases the disease is usually ushered in with a decided chill; the pulse is small and frequent, nausea and vomiting occur, the thirst is considerable and great malaise is complained of. The duration of the chilly sensations is very variable, often only for a half hour or so, and frequently prolonged for one or more hours. The chill, however, bears no relation to that usually introducing a paroxysm of intermittent fever. When the febrile stage is fully developed, the heat of the skin is pungent, the face is flushed, the eyes suffused, the head is hot, respiration hurried, and the pulse increase in fullness and force. The duration of a paroxysm of remittent fever varies very much and is influenced by the severity of the attack. When the disease is mild, it may last no longer than six or seven hours, but if it be severe the paroxysm may last 12, 24, 36, or even as long as 48 hours. When the above symptoms begin to decline, the skin becomes moist, increasing gradually until a free and full perspiration is established.

This indicates the period of remission in the fever. The duration of this stage is variable, depending a good deal on the type of the fever, whether it be quotidian or tertian. In most cases of severe remittent fever, the subsidence of a paroxysm may only be indicated by a reduction of the temperature, the difference in the frequency of the pulse and the suffering of the patient, these being less in the morning than evening.

The above detail of symptoms applies to the milder forms of remittent fever.

In the more violent attacks of pernicious remittent fever, the symptoms, as in the algid form of pernicious intermittent

fever, may in the initiatory stage assume a decidedly malignant form and terminate rapidly in dissolution.

In such cases, to use the language of Dr. Dickson, "the system seems to sink at once prostrate before the invasion or exacerbation, which can scarcely be called febrile. Reaction, to use our technical phrase, does not take place, or very feebly, if at all. The skin is cold and covered with clammy sweat, as in the collapse of cholera,; the pulse is weak and fluttering; the stomach is very irritable, with frequent and painful, but usually ineffectual efforts to vomit; the countenance is shrunken, pale and livid; there is often low, muttering delirium, with shivering and fainting. In some cases no complaint is made, a lethargic insensibility seeming to oppress the patient; in others the most extreme anguish is endured by the miserable sufferer, who, in his agony utters groans or loud cries. The vital powers are speedily and irrevocably exhausted by the recurrence of a few exacerbations, although the remissions in this class of cases are usually well defined, and full of transient relief and hope. The third, fourth or fifth return of the train of symptoms delineated, for the most part, puts an end to the distressing scene."

The phenomena of pernicious remittent fever are in the opinion of all writers that I have read, "the result of defective innervation, depressing the action of the heart, lungs and capillaries, the blood accumulating in the internal organs, imperfectly decarbonized, impairing the full and regular performance of their functions."

The morbific impression in this variety of the disease, as in pernicious intermittent fever, is made most probably primarily upon the nervous centre, and by diminishing its energy, entailing all the phenomena of so grave a description which characterize this particular type of fever.

In the progress of the disease, it often happens that when the nervous system is aroused from its depressed state, reaction is restored and the symptoms of congestion are removed, all the characteristics of bilious remittent fever manifest themselves and run their usual course; or the disease may assume

the intermittent type, which is always to be hailed as a favorable indication in the disease.

Limiting the term pernicious strictly to those forms of miasmatic fever, whether intermittent or remittent in type, which present "a sudden prostration and depravation of the nervous power; in which innervation is extremely and dangerously defective or deranged"—would exclude from discussion, forms of remittent fever by no means unfrequently observed, in the progress of which, and after several days duration, typhoid symptoms present themselves, attended by very profuse perspiration and great prostration, to which the term "continued pernicious fever" has been commonly applied by continental writers; and of late years, in this country, to the same variety of cases the term typho-malarial fever has been given. This seems now to be generally accepted as an appropriate one.

The pathology of pernicious remittent fevers being considered as essentially the same as that of pernicious intermittent fevers, they call for the same general principles in their treatment, and it will not therefore be necessary to go over the same ground.

### "HÆMORRHAGIC MALARIAL FEVER."

This is defined by Dr. Michel, of Alabama, to be "a malignant malarial fever, following repeated attacks of intermittent, characterized by intense nausea and vomiting, very rapid and complete jaundiced condition of the surface, as well as most of the internal organs of the body, an impacted gall bladder and hæmorrhage from the kidneys." "These phenomena present themselves in an almost uninterrupted link, attended by remissions and exacerbations." It is a fever peculiar to the southern part of the United States.

It is treated of by Dr. McDaniel under the term "Icterode pernicious fever," by Dr. Osborn under that of "malignant congestive fever." Dr. Michel could find no record of the disease up to 1867, though he says, "we are told that this disease has been observed occasionally in past years occurring accidentally among other malarial fevers." There can be no doubt

that cases of this disease have been met with in all malarial regions, occurring in persons whose health was broken down by long standing malarial fever; but it is only recently that the disease has prevailed epidemically in Alabama, and some other Southern States.

Dr. J. C. Faget, of this city, in his published "Mémoires et Lettres sur la Fièvre Jaune, et la Fièvre Paludéenne," devotes a considerable portion of the work to a description of hæmorrhagic malarial fever (fiévre paludéenne hémorrhagique), as observed by him in New Orleans. He uses this language, after describing the well recognized "engorgement and congestion" of the spleen which takes place always in miasmatic fevers. "The American physicians have very well seized upon this congestive character of malarial poisoning. They call pernicious fevers commonly (d'une manière générale) congestive fever, and the severe (graves) bilious remittents, so common during summer in the United States, they designate as congestive bilious fevers. Moreover, in latitudes not only warm but humid, it is not exclusively upon the spleen and liver that malarial engorgements and congestions take place, after an afflux of blood to the vessels of the mucous membranes, but it also occurs in a very particular manner in the general glandular structure, or rather follicular structure of the mucous membranes, and particularly of the gastro-intestinal."

"Hence has arisen," he continues, "an interesting species of a malarial order (genre) to add to those of a bilious class—those of a mucous fever (fièvres muqueuses), which in hot and moist regions are accompanied very often, like bilious fevers, by hæmorrhages of all kinds, with a tendency to a continued febrile form, which has rendered their being confounded with yellow fever as prone as that of billious malarial fever with the same yellow fever."

Ought we to regard these two definitions as belonging to the same type of malarial fever?—

I do not myself regard them either in their symptomatology or their pathology as the same disease. Dr. Faget asserts that in the "Fièvre paludiéenne hémorrhagique," described by him,

black vomit frequently occurs, and he regards the fever attacking Creole children in New Orleans, during seasons of epidemic yellow fever as a hæmorrhagic malarial fever; Creole children, in his opinion, enjoying an immunity from the disease. Drs. Michel, Barnes, Osborn and Weatherby describe hæmorrhagic malarial fever as having hæmaturia, the prominent morbid phenomenon, with a characteristic "yellow color," and *no hæmorrhage from the stomach taking place.* On this head their language is very precise and emphatic. "The matters ejected from the stomach have been carefully examined, not only chemically but by aid of the microscope, and no matter what shade of color they present, whether they be as Dr. Barnes has described, of a black tarry character, or as Dr. Ghent has recorded of a red, sometimes green, and in one case blue color; or as Dr. Osborn has mentioned, one of his patients vomiting a greenish fluid and having greenish expectoration, it is nothing more *than bile with the muriatic acid of the stomach.*" Dr. Barnes continues:

"Here we see no dark granular substance with coffee grounds sediment, no terrible acid accumulations trning litmus paper promptly red, although some traces of muriatic acid are present. No amorphous granules swimming through the liquid, no dense opaque mass tinged darkly with hematin, no shreds or beds of mucus containing epithelial scales, granules and broken blood disks; no inspissated, viscid form of mucus, characterizing what Dr. Middleton Michel has so forcibly portrayed as the marked feature of the "black vomit" of yellow fever. No; we find biliverdin, cholesterin, and all the elements of bile, and by the addition of an acid we may readily convert these ejecta into almost every color of the rainbow, green, red violet or brown. No; we have no blood here, no trace of a hæmorrhage from the stomach; and I would like to disabuse the public mind from any supposition which would create the belief that the vomit in this disease resembles the black vomit of yellow fever in the remotest possible manner. *The patient vomits dark, grumous bile.*"

In a recent work by Dr. Bérenger-Férand—"de la Fiévre Bileuse Mélanurique,"—as observed by him in Senegambia and

Chochin China, he describes a variety of miasmatic fever very closely resembling, if it is not identical with the hæmorrhagic malarial fever of Dr. Michel, and the work is here briefly referred to, as he very distinctly and positively opposes any confounding of the two diseases "melanuric bilious fever" and yellow fever.

The names under which the affection described by Bérenger-Férand, has been variously designated are, "Fiévre bilieuse grave; Fiévre bilieuse hématurique;" "Fiévre Ictero-hémorrhagique;" "Fiévre pernicieuse Icterique;" "Accés jaune;" "Fiévre remittente bilieuse;" "Fiévre jaune des Crèoles et des acclimatés."

All writers on hæmorrhagic fever regard malaria as the exclusive cause of the affection. Dr. Barnes describes it as "an assemblage of symptoms,—apparently the result of an impression on the nerve centres, and that impression a peculiar form of what occurs in a paroxysm of intermittent. It is always preceded by common chills, or paroxysm of intermittent, but finally the patient is seized with one during which the chilly sensation experienced is much more protracted.

From the moment the chill is ushered in, a bloody urine is discharged from the bladder, and if a blister is applied, bloody serum collects under the raised cuticle. A very small blood letting causes syncope, and the blood appears broken down and dissolved. The patient becomes rapidly jaundiced; he vomits and purges a great quantity of black, tarry-looking substance, which when smeared on a sheet leaves a green stain. If he live long enough, the blistered surface instead of discharging bloody serum, will discharge green matter, which colors a poultice like green paint. The sufferings of the patient are terrible as long as he retains his reason, and finally delirium, coma and convulsions close the scene."

"The most prominent symptoms are the "yellow color" and the hæmaturia. The nausea and vomiting is remarkably severe and persistent. It begins with the chill and ends when the patient has succumbed to the fell destroyer, or has passed into convalescence.

The hæmorrhage tendency is demonstrated occasionally from other surfaces besides the urinary organs. The tongue is spoken of by Dr. Osborn as bluish, thick, coated over the middle with a dirty fur, leaving clean margins and deeply crimped edges. The condition of the brain in this disease is variable. As a general rule, the mind is quiet and clear up to the period of death. Most frequently the bowels are torpid. The temperature as a general rule does not vary much. Dr. Sholl says, "We have a temperature varying from 98° to 105°, the last the highest I have ever found it, falling rapidly 4° to 5°. The skin sometimes cool."

"We find all forms of intermittent fever, quotidian, tertian and quartan, as well as remittent fever, terminating in this disease; and according to Dr. Ghent one attack predisposes to another."

"The disease is epidemic in certain localities, particularly in the prairie country of Alabama, occurring in the fall or early winter, though we hear of cases in almost every month of the year." Duration of the disease is variable, from 4 to 12 days. Dr. Ghent reports a case which terminated fatally within 12 hours.

*Diagnosis.*—"Diagnosticated readily from *bilious, remittent and intermittent fever* by bleeding from the kidneys and the uncontrollable and unceasing nausea and vomiting."

*From Yellow Fever.*—"By not being continued in type. By not attacking those who are subject to that disease; and by appearing in localities almost unknown to that milder affection. By the urine being not only bloody but full of bile, and by the yellow color of the skin, being produced by the deposition of bile instead of blood under the skin; and lastly, by the absence of microscopical black vomit, and many other features easily recognizable as characteristic of yellow fever."

*From Hepathic Affections and Especially Jaundice.*—By the initial chill and the sudden change of color in the skin, which is bronzed instead of saffron yellow, and by its fatality, which is unknown in jaundice, as well as the hæmaturic feature, which is conspicuous and intermittent.

*Prognosis.*—The prognosis is very unfavorable. I regard hæmorrhagic malarial fever as the most fatal of all the diseases which have come under my notice.

I have lost one-half of my cases. The testimony of Dr. Osborn and others are to the same effect.

*Modes of Death.*—The most common mode of death in hæmorrhagic malarial fever, is by a gradual exhaustion of the powers of life. Sometimes by uræmic poisoning, and in these cases the mode of death is either by profound stupor or uræmic intoxication with delirium, coma and convulsions.

*Pathology.*—On opening the calvarium, the dura mater was yellow; brain perfectly natural, but firmer than generally met with; very little vascularity; veins almost empty.

*Chest.*—Yellow color pervading all the tissues, even the pericardium and the fatty zone around the base of the heart, which was healthy. The usual quantity of serum in the pericardium was of a deep bronzed color. Lungs perfectly healthy.

*Abdominal Cavity.*—Omentum normal but of the yellow color. Stomach filled with grumous bile. Mucous membrane thickened and vascular. The intestines normal; pancreas of its usual length and bright yellow.

The spleen was almost three times its normal size and instead of being friable, it was firm and of a solid consistency, occupying not only its usual resting place, but encroaching upon the lumbar region and taking up about half that space. Weight 19½ ounces, instead of 7 ounces its usual weight.

The kidneys were much enlarged, the normal weight of the kidneys being 4½ to 6 ounces, while this kidney weighed 10½ ounces. The kidneys presented a most peculiar appearance. The dense fibro-areolar tissue could be easily peeled off, leaving the organ smooth and of a pale reddish color, demonstrating the fact that the organ had passed through no severe inflammatory action. A transverse section revealed the cortical and medullary substance of a dark green color. The supra renal capsules were perfectly normal.

The blood in the vessels, and the blood in the urine have not, under the microscope, the remotest resemblance to that fluid, as presented in a yellow fever patient.

*Treatment.*—All writers on this disease agree, however much their opinions may differ in other respects, that for success they must rely upon the administration of calomel and quinine.

The administration of quinine should be governed by the same therapeutical indications as in pernicious fever.

For the relief of the bloody discharges from the bladder, astringents, Tannin, Gallic acid, acetate of lead and opium, Krameria, and the mineral acids are recommended.

Dr. Osborn abandoned the use of astringents as tending to induce suppression of urine after the hæmorrhage was stopped, and substituted spirits of nitre in half-ounce doses, every three hours, nitrate of potassa, three grains in a gill of melon-seed tea, or infusion of buchu, three or four times a day; also the acetate of potassa.

Dr. F. C. Fahs, of Selma, Ala., regards hyposulphite of soda, as the sheet anchor in this disease.

The use of blisters to control the nausea and vomitting is condemned as never availing to that end, and are hurtful as producing strangury.

Some physicians advocate the use of opiates, "even large doses of morphine." Osborne and Sholl condemn them as "positively hurtful." The latter says: "Avoid all opiates unless there is diarrhœa."

The tincture of iron, mineral acids, elixir of vitriol, decoction of bark, comp. tinct. Gentian, are recommended as preferable tonics during convalescence.

Dr. Michel concludes his treatise in the following words: "It will be observed from what we have said of Hæmorrhagic Malarial fever, that little has been seen as yet that could be considered of benefit in the treatment of this disease. What then is left us to do? Reason points to its prevention; and thank God who giveth us the victory, something can be done in that direction. *Cure, by the administration of proper doses of quinine your intermittent fevers, and you stop, and stop forever, this horrible disease.*

# The Negro Thomas—His Control Over Muscular Movements—The Tricks he Performs.

BY A. B. MILES, M.D.,

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MESSRS. EDITORS: By your request, I write an account of my examination of Thomas, the phenomenal negro, who has recently visited this city. He is a negro, nearly black, below medium height, weighing 163 pounds, rather unattractive in appearance, a limber limbed fellow, with a dwadling gait, but of fine muscular development, and certainly without a rival in his art. He has traveled as a showman in this country and abroad and exhibited himself to the people and to the profession as an object of curious interest. Prof. Michel, of Charleston, in the Boston *Medical and Surgical Journal*, October, 1878, has contributed an interesting article to enhance this negro's reputation.

He certainly has the power of controlling to a remarkable extent the movements of the respiratory and abdominal muscles; besides, he can restrain the action of his heart in a new way. These acknowledged accomplishments he artfully turns to profitable account in the practice of his deceptions.

## I.—CONTROL OVER MUSCULAR MOVEMENTS.

When observed unaware, his respiration is about twenty-four per minute, pulse eighty-six, the respiratory movements normal. During his performance, he restrains costal respiration and breathes with the abdominal muscles. The tape measure shows no expansion of the chest walls, and evidently the intercostals are controlled in their action. The end of the finger in the intercostal spaces feels the muscles relaxed, then, at will, made rigid in contraction.

The intercostals and abdominal muscles, like many other voluntary muscles in the body, receiving their nervous impulses at the same instant, habitually contract together in a common purpose. Exercise may overcome the co-ordinate movements of various other groups of muscles. For example,

the superficial and deep flexors of the fingers habitually act together; but many persons have learned to contract one without the other. So this negro, by constant practice, has simply acquired the power of restraining one set of respiratory muscles while he contracts the other.

He has even greater control over the muscles of his abdomen. It was discovered that he could restrain those of the abdominal walls, so that their movements were scarcely perceptible by measurement, while he carried on thoracic respiration. Furthermore, he has the power of contracting some of the abdominal muscles, while he relaxes the rest; of contracting one part of the same muscle—the rectus—while the other portion is relaxed.

He can throw the abdominal muscles in a wave-like motion, the contraction wave traveling for awhile from above downwards, then reversed, and made to roll from below upward. This movement is accomplished, for the most part, by the action of the recti muscles, the several sections of which are separately and successively thrown into rigid contraction. What may we not expect from such educated muscles? His most extraordinary feat consists in forming his muscles over the inguinal region in the shape of a tumor, and by rythmical muscular contraction, imparting to it a pulsatile movement, which makes the tumor resemble the action of the heart. This movement is accomplished, for the most part, by the external oblique muscle, the fleshy part of which is distinctly seen in rythmical action. All this is done under muscular tension, which lasts scarcely a quarter of a minute.

The musician's skill in controlling the muscles of the forearm and hand is more marvelous; so also is the power of the ballet-dancer to keep time with the music. We only wonder at the training of the negro's muscles, because of the oddity of the art in which he employs them. The comedian plays on the muscles of his face for the amusement of his audience; the negro plays on the muscles of his abdomen.

This negro also has the power of restraining his heart's action, so that the sounds are scarcely audible. He does this in forcible, prolonged expiration, for he takes a full breath immediately

after. Thus, the pulmonary circulation is clogged, and the right heart is distended on one side, while, on the other, the left has lost its usual stimulus. Then, the heart sounds are feeble at best. Furthermore, the act is accomplished under great muscular effort, by which the anterior wall of the chest is markedly depressed. By the elevation of the diaphragm and the depression of the chest, the heart recedes in the cavity of the thorax. So, the heart sounds are heard at a distance. The sounds, then, feeble at best, and heard at a distance, are the more indistinct, as they are confused with the sounds of muscular contraction. The heart is greatly restrained, but in such a short time, not entirely arrested in its action. While the heart is only partially restrained, he is in the habit, at the same time, of completely checking his radial pulse. This is, of course, easily done by such a muscular man. He holds his forearms prone, contracts his muscles strongly and draws the bicipital fascia tightly across the brachial artery.

Many persons have learned to control the heart's action by forcible and prolonged inspiration. In Vol. XVI, 1859, of the New Orleans MEDICAL AND SURGICAL JOURNAL, I find reported by Prof. Chaillé, the case of M. Groux, who visited this city about twenty years ago, and exhibited this power of controlling the heart under great exertion, and after a full, forcible inspiration. Prof. Chaillé himself, has the same power over his heart, which time and again, in my day, I saw him illustrate before the medical class of the University, and explain as the simple result of mechanical pressure of the heart by the forcibly expanded lungs. From the position of the heart, as it rests on the central tendon of the diaphragm, embraced between the concave surfaces of the lungs and overlapped by their anterior borders, it is well known how inspiration modifies and expiration facilitates its action. With a little practice, I am sure, most persons could acquire a certain control over the heart's action.

Again, some persons can suspend the heart's action under a prolonged cessation of respiration, without any undue muscular effort. Physiology explains how unaërated blood is-

retarded in its flow through the systemic capillaries. The arteries are in consequence unduly distended, the blood is dammed back and fills the left heart to its utmost capacity. The muscular fibres of the heart are for the time paralyzed from over distension, and the organ lies powerless, as in asphyxia. This process of arresting the heart requires some minutes for its completion, and, of course, is attended with great danger. We are told that the great Hunter could voluntarily suspend respiration, and, in this way, control his heart until its action almost ceased. Colonel Townshend, whose case is familiar to your readers, recorded in our text-books and accepted by many physiologists, on one occasion, in the presence of three medical gentlemen, suspended respiration and the action of his heart, and held these functions in abeyance for half an hour.

Mr. Braid, in his Observations on Trance, or Human Hibernation, gives an account of those startling statements of British officers in regard to the performances of the Indian Fakeers. Some of them, it is said, can voluntarily suspend respiration and the heart's action, bring themselves into a condition resembling profound collapse, and remain in this state for ten days and even six weeks! It is furthermore said that some of those people have been buried in underground cells lined with masonry and covered with slabs of stone, remained interred for three days, ten days and longer, and then been restored to perfect health!! These incredible accounts are most likely based upon the fact that it is a common accomplishment among those people to be able to suspend for awhile respiration and the action of the heart.

So, there are three ways of controlling the heart's action, and for an illustration of one of these we are indebted to Thomas, the hero of our story.

The power he has over the movements of the intercostal and abdominal muscles and the action of his heart he employs in the practice of some very ingenious deceptions.

### II.—THE TRICKS THE NEGRO PERFORMS.

He claims to have no pericardium—no diaphragm, and all his tricks are performed to verify this assumption.

ACT 1st.—He exposes the front of the abdomen and chest, restrains thoracic respiration, and makes the abdominal muscles rise and fall in a forced respiration to convey the idea (in one sense correct), that upon these he depends for his living. This performance itself would demonstrate the action of a perfect diaphragm. If it were wanting, or even imperfect, the more imperative would be the necessity of costal respiration.

ACT 2d.—He claims to have a "false sternum" within, which, for convenience sake, he carries in the upper part of the common cavity, just behind the true sternum. This is brought down by the rolling motion of the abdomen and shown below in the rigidly contracted recti muscles. Only a stupid audience would fail to appreciate the farce in the second act.

ACT 3d.—This is the specialty which has brought him renown. By the same rolling motion of the front of the abdomen he pretends to throw his heart first in one inguinal region, then in the other, and make it pulsate there perceptibly and audibly.

As before described, a tumor is formed in the inguinal region by the transversalis, internal and external oblique, and by the rythmical contraction of these muscles, mainly the external oblique, a pulsatile movement is imparted to it.

A sound is, indeed, heard over the region of this tumor; but it does not resemble in character the heart sound. It is simply the result of muscular contraction, and is diffused over the front of the abdomen.

At first, while the heart is supposed to be pulsating below, the radial pulse is good, only a little hurried. Now, every energy is concentrated in his master feat. To carry out the pretence of having his heart in the lower abdomen, he suppresses the normal sounds, as above described, so that an examination, if made too hurriedly, fails to detect them. As before mentioned, whenever he restrains his heart, he is in the habit of completely checking his pulse; and here he commits the indiscretion of checking his radial pulse, while the heart is strongly beating in the iliac region. However, with the exception of a few blunders, it must be acknowledged, that, with all his other accomplishments, the fellow is a very clever trickster. At the conclusion of his performance, he appears in citizen's

dress and carrying a walking cane, which is made of a three-quarter inch bar of iron. This is first bent by striking violent blows over the muscles of the forearm, then straightened in the same way.

Failing in Thomas, it will, perhaps, be of interest to your readers to recall from the old records of anatomy some of those singular cases of congenital malformation of the diaphragm. Reptiles and fishes have no diaphragm; and in the very young fœtus, before the development of this muscle, the thorax and abdomen form a common cavity. If its development be arrested at this age, the diaphragm may be entirely wanting. A case of the kind is recorded, in which the subject reached the age of seven years, and with the exception of a cough, is said to have suffered no inconvenience from the deformity. The dissection was made by Diemorbroeck, and the case is accepted upon his authority.

The diaphragm develops from the circumference to the center. An arrest in its development may result in a deficiency at or near its center. Such malformations are not uncommon; and I find three cases of the kind recorded, in which, post mortem, the heart lay in the cavity of the abdomen. Mr. Wilson (Phil. Trans., 1798) has reported a case, in which the heart rested in a fissue on the convex surface of the liver—the child lived seven days. Ramel (Journal de Médicine, Chir. et Pharm., vol. XLIX) found the heart in a little girl, ten years of age, situated in the epigastric region. She suffered of frequent palpitations. In the remarkable case, dissected and recorded by Deschamps (Journal Général de Médicine, vol. XXVI), the heart occupied the place of the left kidney, which was wanting. The subject was an old soldier, who had seen service and enjoyed good health, with the exception of some suffering of nephritic pains. The vessels connected with the heart passed through the opening in the diaphragm into the chest.

Observe in the cases reported the symptoms referable to the misplaced heart. The little girl, with her heart in the epigastrium, had frequent palpitations; the old soldier, whose heart rested in the region of the kidney, suffered of severe nephritic pains. Again, observe that in one of the cases, the upper sur-

face of the liver was fissured, in another the left kidney was wanting, all giving evidence that the heart habitually remained with the abdominal organs.

Now, the negro's heart, is a little enlarged and hurried in its action ; but this condition is not uncommon among those who live on their muscle. Again, he carries his heart in the right place, only dislodging it, as he says. upon occasions.

Cases of cleft diaphragm are always attended with a protrusion of some of the abdominal viscera into the thorax. It is commonly observed in wounds of this muscle, how often a diaphragmatic hernia follows, even though the opening be small. In rupture of the diaphragm, during violent muscular exertion, sudden death has usually followed, caused no doubt by the entrance of the abdominal organs, arresting almost immediately the action of the lungs and heart.

The negro can not even have a "hare-lip diaphragm," for there is no evidence of the viscera of the abdomen ever invading the thorax. If only the heart crosses the border line, exactly how, is as yet unexplained. Since it rests behind the chest wall, no rolling motion of the abdominal wall could roll it down, even if the diaphragm were wanting ; and a gubernaculum cordis, of such elasticity, is not known in our anatomy,

It has been suggested by many that the diaphragm in this case is developed proportionately with the other muscles, and is, therefore, capable of descending deeply in a forced inspiration ; that the heart is pulled after it, and, in this way, made to pulsate in the lower abdomen. Haller says he once saw a case, in which the diaphragm, in forcible inspiration, presented a convex surface to the abdomen. The statement is scarcely credible. If the diaphragm in the negro were capable of such an action, imagine the enormous extent to which the blood vessels, especially the superior cava and pulmonary vessels, would be stretched. Blood vessels may yield considerably if the stretching be gradual. I once found the left kidney resting in the pelvic cavity, to the left of the rectum, and supported by the levator ani muscle, the renal artery arising and the vein emptying at the usual points. The organ was small and deformed in shape. If vessels so far from the

heart can undergo such an amount of stretching, it is not impossible that those near the heart, where there is so much elastic tissue in their coats, should yield more. Deschamp's case verifies this possibility of a gradual stretching. It is too much to ask us to believe that the negro's vessels are suddenly stretched to such an extent, and as suddenly restored to a normal condition. It may be imagined that the vessels near the heart are relaxed and redundant to admit of the sudden dislocation of the organ. If this were so, the heart, which is naturally suspended by its vessels, would easily topple out of place, and disturbance in the circulation would be inevitable.

But the negro's heart remains in position, although a little enlarged, and the circulation goes on well.

The upper organs of the abdomen are attached to the diaphragm and by it mainly held in position. If this muscle in the negro were capable of such latitude of motion, these organs, especially the liver, so frequently dislodged, would be unstable in their position. The negro's organs remain in proper place.

Even the left inguinal region is low down for a reversed diaphragm to admit the heart; but when the darkey pretends to put his heart in the right! iliac region, as well as the left, he explodes the reversed diaphragm theory. If there were no other obstacle, the liver would occupy the place where he claims to put his heart.

At last, after giving him the benefit of every possibility in anatomy, his tricks are reduced to absurdities. He is only indebted to nature for a complete set of organs like others have; the rest he has done himself, and, by constant practice, acquired an art all his own.

## Menorrhagia Treated by Plugging the Uterus.

By W. P. BREWER, M.D.

Read before the New Orleans Medical and Surgical Association in 1874.

I mention this case to show the advantage of local applications to internal surface of the uterus when general treatment fails to arrest the hæmorrhage.

A. T., female, aged about 38 years; habit scrofulous; has had four living children and several miscarriages. The uterus was large, heavy and indurated. Internal mucous membrane granular and bleeding easily. At time of periods the loss of blood was great. In the interum there was some loss, but not constant, or in as great abundance as at the period. This loss of blood which had been going on for a length of time had seriously impaired her general health, and especially did the nervous system suffer. After trying the tampon tents, and all the astringents I could think, read or hear of, and failing to relieve my patient, but finding her about to give up the ghost, concluded to try plugging the uterus as a *dernier* resort. I made several pledgits of cotton dipped in a solution of ferri sesquichl and attached to silk thread for purpose of withdrawal. Using speculum and sound, I carefully introduced my pledgits into uterus and allowed them to remain 24 hours, withdrew and repeated until hæmorrhage ceased. The iron prevented unpleasant consequences from decomposition. I was compelled to pursue this treatment for a fortnight, at the same time sustaining my patient's strength by food and tonics. At the next return of the menstrual period, the discharge was nearly normal, and at the one following it was normal with general health much improved. I think this treatment originated with Dr. Bennet.

## A Case of Puerperal Mania.

By C. J. BICKHAM, M. D., New Orleans, La.

(*Read before the New Orleans Medical and Surgical Association in December*, 1879.)

Mrs. N. was confined on November 8th, 1879, giving birth to a fine healthy female child, which was her third. Her previous health had been only moderately good, not so good, as during the carrying of her two previous children. She was more anæmic than usual and thinner in flesh. There was no difficulty in this confinement. The child was born quickly, the placenta and membranes came promptly and cleanly, and all did well.

For two days the lochial discharge was free, and everything went well, until on the third morning, just forty-eight hours after delivery, when she had a chill followed by high fever, apparently without any reason whatever. She had taken no cold, nor had anything occurred to produce such a state as far as could be seen.

The fever was high, the temperature ranging from 103½° to 104⅞° for nearly six days, with a pulse from 90 to 120 a minute, and with almost all the time a freely perspirable skin. The lochial discharge, as such, ceased almost entirely as soon as the chill occurred, and what little there was was almost colorless and slightly offensive. There was no enlargement of the womb, no meteorism, no tenderness, no pressure, or very little, and no sign of inflammation anywhere, nor delirium.

For this fever, viewed as the effect of septicæmia, appropriate febrifuge means were used, the patient was sustained, and carefully applied local detergents, and disinfectants were instituted. About the fifth day of the fever, the lochial discharge proper, that is, a bloody discharge, returned freely, and the fever subsided by the end of the sixth day, when she seemed much improved, and began to nourish well. From this time the patient in every way appeared to be doing well.

She nourished well, the excretions were regular and good, and she seemed fairly convalescing, until, on the fourth day after the fever subsided, the thirteenth from her confinement, it was observed she appeared to be unusually talkative and happy. She was in a good humor with herself and all around her; was very communicative, her former marked reserve was in a manner laid aside; at night she did not sleep quite so well, and observed in the morning that her mind had been very active, running on many things, as, for example, how she would make the clothes for her children, etc., and was worried by many things. It was curious and interesting to observe and hear her in this peculiar exalted ecstatic mental state. She was highly educated and accomplished, and possessing naturally an active and sprightly mind, it was very entertaining often to sit and listen to her talk. She was perfectly coherent, expressed herself fluently and well, but would talk incessantly

and pass rapidly from one subject to another. This increased, until, by the expiration of the second week of the confinement, and the fifth day of the observation of her unusual loquacity, she imagined she had died, and her death and funeral were announced in the papers, but they would not let her read it. Later at times, she imagined many strange and unreal things, as, that she was half horse and half woman, or, that she was a pig or some other animal, and that they were continually stuffing her with food.

She was withal quite hysterical at times, and would sob and cry, especially if her whim, whatever it might be, was not gratified at once, then she would talk rapidly for a few moments, and becoming exhausted soon, she would recognize and remark it herself, and stop a moment to rest, and then proceed again. I viewed it that the chill and fever were the result of septicæmia from the womb, and that this loquacious, nervous state, was the effect of anæmia, combined probably with more or less tæxomia still remaining, and that time, good nourishment, stimulants, quiet and good sleep, would avail in relieving her, and so expressed myself, but the case being tedious and observing the family were anxious, I suggested counsel, and Dr. D. C. Holliday was called, who viewed it as entirely a non-inflammatory condition of the brain and its membranes, and that she was in this state from not only impoverished blood, but in all probability septicæmic blood as well; this abnormally exalted state of the brain and general nervous system being another phase of, and the result, in part at least, of the primary cause of the fever.

He urged good nourishment and plenty of it, iron, and soothing agents to produce quiet and sleep, and after a few days he suggested phosphorus combined with the iron.

Fortunately she ate freely, relished and digested it, and besides generous food of beefsteak, eggs, milk, soup, etc, she took during the twenty-four hours some eight or ten ounces of good brandy in the form of milk punch. This had a soothing rather than an exciting effect. To procure reasonable quiet during the day, solution of valerionate of ammonia and assafœtidæ were given, and to insure sufficient sleep at night thirty

grains of bromide of potassium combined with twenty grains of hydrate of chloral were given, and repeated if necessary. This acted very happily.

Opiates were avoided on account of idiosyncrasy, obstructing the excretions, and as being calculated to impair appetite and digestion, the sheet-anchors in this case.

On this course she steadily improved, and now, five weeks after the birth of the child, she is almost perfectly well; the secretion of milk, which had been almost stopped, having returned, and all the functions of the body having resumed their wonted action.

I would also observe that she never at any time during this state of mental aberration and exaltation had any undue heat of head or body, but her pulse at the most excited time was 132 to 138 per minute, accelerated of course, by mental or physical exertion. There was no defined cause in this case from inheritance. The cause must have been a poisoned and anæmic state of the blood.

A possible factor in the production of this state of the function of the brain and nervous system in this case, suggested by Dr. Holliday, might have been a slight fissure detected in the external uterine os, thereby inducing reflex irritability. Authors do attribute puerperal mania to such causes. But, what is the explanation in this case?

Inherited influence, shock, anæmia, uterine irritation and inflammation, are the chief causes assigned by authors and observers, but we see many cases much more anæmic escape it. It is not common following puerperal fever, and we have thousands of cases of great shock, and various forms of uterine disturbance without it. In my own practice, now extending over a space of 25 years, or nearly so, I have never met with a case before, and this would naturally lead one to cast about, and ask not only for its exact causes, but its frequency in different localities. What are the statistics in various States and countries on the subject? What influence has climate in its production? What influence has education, or kinds of education, or no education at all in its production? What influence has peculiarity of nervous con-

stitution? Does a callous uneducated person often have it, as compared to those of high and fine nervous organization well educated? Is it not more frequent in persons of active, refined and sensitive natures? whose thoughts and imaginations are active?

I am much inclined to thinks so. These and other kindred questions are pertinent, and very naturally occur to one.

## CORRESPONDENCE.

PLANTERSVILLE, MOREHOUSE PARISH, LA.,
August 3, 1879.

S. M. BEMISS, M. D.

*Dear Sir*—I thought the following report of a curious case would interest you:

July 20th called to see a child 18 months old; quadroon; had been sprightly all the morning, but at about 11 o'clock, A. M., was taken with fever and in about half an hour had a spasm, which lasted fifteen minutes; saw it at 2 P. M., had had four convulsions. Fever high, pulse quick, but small and thready, skin hot, insensible, but pawing the air with both feet and hands (kicking out its legs and striking alternately with its hands), pupil of eye small, and occasionally licking out the tongue, abdomen swollen and tense, tympanitic, had one action in the morning that was reported not unnatural. I gave it a dose of chloral, 1 gr., and repeated it in an hour, also alternately calomel and quinine, every half hour. It became more quiet and at 8 P. M. had a full calomel stool, fever cooler; passed a quiet night until about 12 o'clock, when the fever again rose and the same symptoms all again appeared as described above, and in addition the head was extremely hot. I tried inhalation of chloroform with only temporary effect and fell back again on the chloral and morphine with quinine, cold cloths to head (warm poultices, or flannel cloths soaked in oil and turpentine on the abdomen seemed to increase the restlessness and convulsiveness of movement). The fever and other symptoms seemed to be augmented about 11 o'clock, A. M., 24th, and at about 2 P. M. the mucous rattling in the

throat, short difficult respiration, palid face and sunken eyes, seemed to tell me that death was there. So hot was the whole surface and head that it seemed almost to scorch the hand. I was satisfied that it could not live above an hour as all power of motion was gone and the tongue quivered when the mouth was opened.

As a last resort I caused a tub of cold water to be brought into the room and immersed the child in it except the head, and on it I poured cold water in a full douche from a quart cup. For the first minute it was as if dead, but in two minutes more it kicked manfully and cried out. It was then placed upon the bed and in a few seconds fell into a perfectly natural sleep, skin cool, pulse (which was before almost like a hair and too quick to count) became soft, full and natural. In about fifteen minutes a gentle perspiration came out on the skin, and in an hour it woke up and prattled to its father and seemed conscious of its surroundings, drank freely and took some broth or soup. Afterwards, becoming restless, I had its head and body covered with a single cloth, wet in a weak mixture of whisky and water and fanned continually. It passed a good night, but the fever in spite of quinine, returned at 8 o'clock next morning slightly, and the spasmodic motion of feet and hands, tumid abdomen, etc. Santonine and calomel given, brought away one small lumbricordia about 1½ inches long; quinine was kept up, fever did not return, and the child seemed to be doing well, except that when last seen, yesterday, August 2d, it seemed not to have good use of itself, as if it were slightly paralyzed, otherwise, its bodily functions are all properly performed. I have reported this case simply because from the symptoms, I was unable to make my mind clearly the cause of its sickness and why the resulting paralysis. It could not have been worms, nor inflammation of the bowels, as there were no watery discharges (though the last action from calomel and santonine brought away a full, dark, rather fœtid stool). Could it have been a sudden attack of conjestion of the brain, with exudation? Quinine seemed not to control until the third fever, and at the last abated it. I have seen many cases of conjestion of the brain, but it followed the

second or third fever and not the first attack, and in so very short a period, half an hour. Could this have been a case of infantile apoplexy (so-called)? I had never seen before nor heard of any cases where the immersion in cold bath was practiced, and in this case I should not have done it had I not been so sure, that in case of failure, I should only be shortening its life a few minutes. But the change which took place seemed to me almost magical, and so far beyond my expectation that I could not realize that the child was so much better in so short a time.

I would like to ask you what mode of treatment would be likely to be successful in a disease of the mouth, of which there are several in my section. The part disordered is the gums, which are of a dark red, have a tendency to bleed easily, cleaves from the teeth, making them look unnaturally long, the breath is disagreeable and the patient does not seem to suffer much inconvenience from it except at times when the disease seems to be particularly increased? I notice that they drink, smoke, chew tobacco, etc., and eat as others do. There is no unusual salivation, but when they bleed it seems to be from a surface, not from any crack or fissure. The parties are not of syphalitic character. It goes under the name of "scurvy," and is very difficult to cure. I have never cured a case yet and I tried acids, neutral salts astringents, locally together with iodide of potash internally. Is it a constitutional disease? is it hereditary? In one family the father, 60 years of age, has had it 30 years off and on, and two sons, one 18 years, the other 14 years of age, have it. The girls are not troubled. In another family, one son only, though the girls, all grown, have unsound teeth. In another family, an only daughter, whose father and mother, neither of them have it. There is no scrofulous taint in any of these families, nor do the children of the third generation appear to have it.

Have I made myself sufficiently plain in my description?

Trusting that your city may escape the threatened disease this year,

I am truly yours,

BEN. H. BRODNAX.

# Current Medical Literature.

## BRIGHT'S DISEASE.

[Principal conclusions of the interesting paper read before the International Medical Congress of Amsterdam, September, 1879, by Prof. Semmola, of Naples.]

Translated from *Giornale Internazionale—della Scienze Mediche di Napoli.*
By Dr. John Dell'Orto.

1st. My first researches on Bright's disease date as early as 1850. I believe that nobody before me has ever tried to prove the special influence of alimentation and diet on the quantity of albumen excreted by the kidneys in this disease.

2d. This influence of a nitrogenous or non-nitrogeneous diet upon a relative proportion of albumen in the urine, or upon its absence therefrom, was the starting point of all my investigations, and has led me to the conclusion, that our attention should not be limited only to the study of renal lesions, but also to the general derangement of nutrition, that prevents the destructive metamorphosis of the albuminoid principles.

3d. This idea of mine on the pathogeny of Bright's disease has been confirmed by another classical fact, wholly unknown up to the present date, I mean the notable and progressive decrease in the quantity of urea in the very beginning of the sickness.

4th. I consider this fact as of the most vital importance to the physiology and pathology of the disease. During many years I have insisted upon this point in my frequent communications to the Academies of Medicine of Paris and Naples. I spoke of it at the Medical Congresses of Paris (1861-67) and of Bruxelles (1875); and now I am convinced more than ever by a large experience of three hundred observations, that this decrease of urea at the commencement of Bright's disease is owing to deficiency of assimilations, and defect of oxidation of the albuminous matter.

It is a note worthy fact, that the defect of formation of urea is the result of the diminution or total suppression of the functions of the skin. In consequence of which two chemical changes, essentially linked together in a biological point of view, appear, that is, alteration and non-assimilation of the albuminoids, and absence of their combustion. These two changes are immediately followed by diminution in the formation of urea—a fact, that can be experimentally reproduced by varnishing the skin of a dog.

Leaving to physiologists the explanation of these phenomena, I only indicate them as a proof, that the true chronic Bright's Disease is a general disease, it is a deeply seated defect of nutrition, in which the anatomical alterations of the kidneys (from

hyperæmia down to cirrhosis and atrophy), do not nor cannot constitute the primitive pathogenic cause of the principal symptoms of the disease. In fact it would be impossible to demonstrate with the assistance of physiology how a morbific process limited to the kidneys in its origin—that is at a moment when their function as depuratory organs is not altered—could exercise such an influence in the formation of urea as to react on the work of nutrition of the whole organism.

I call the special attention of my colleagues to this point, which has been neglected on account of being only observed in the first stage of the illness, and in the patients of the Hospitals.

5th. In the other kinds of albuminuria, this diminution in the production of urea is not found at the commencement of albuminous filtration. It is consequently necessary to separate these different albuminurias, in order to avoid an error which still exists, and which would lead to much danger, if introduced in teaching and practice.

6th. The diminution of urea in other albuminurias has no relation of causation with regard to albuminous filtration. It may exist sometimes, but modified, according to the peculiar disease that has caused the albuminuria, and at the same time has altered the general nutrition, as for instance the diseases of the heart; but the diminution of urea in these cases has nothing to do with the appearance of the albuminuria—the albuminuria runs quite a different course, and it is only at the last stage of the disease, when the kidney is deeply altered (*cardiacus* kidney, amylaceous kidney), that a considerable diminution of urea is noticed in the urine through functional defect. Such diminution is then a mechanical fact, that immediately causes the accumulation of urea in the blood, with all its fatal consequences.

7th. In Bright's disease, properly so-called, the diminution of urea is the result of two causes. In the first stage it is due to defective combustion on account of a deteriorated general nutrition from suppressed cutaneous functions. Subsequently during the progress of renal disease, we meet again decrease of urea, which is brought about by deficiency in excretion.

8th. The exaggeration of the pathological modification of the kidneys has so preoccupied the minds of practitioners as to neglect the general and chemical nature of the disease, and a conclusion quite paradoxical for scientific pathology has been the result, that is a clinical unity with multiform anatomical changes (large white kidneys, amylaceous kidneys, etc.).

We cannot indeed understand how a general constitutional disease, produced by the same causes, presenting the same symptoms may finally terminate with so different pathological results. This final difference in the lesions of the kidneys should lead us to acknowledge a difference also in the nature of the preceding morbific processss. It is only by carefully comparing the evolution of all the symptoms, the mechanism of the

clinical form in relation to the peculiar causes, that we will be able to distinguish the albuminuria of Bright's disease from other albuminurias, so as to make it a characteristic pathological entity.

9th. The presence of albumen in the urine can be accounted for by the three physiological factors which preside over the renal function:

a—Chemical conditions of the blood.

b—Degree of pressure.

c—Conditions of the histological elements of the kidneys.

10th. There are in consequence three kinds of albuminurias.

a—Discrasic albuminuria, by excess or alteration of the albuminoids of the blood.

b—Mechanical albuminuria.

c—Irritative albuminuria caused by local irritation of the elements that reach the kidneys, either coming from outside or formed in the organism.

These three species of albuminuria are in perfect accord with the anatomical condition of the kidney, that is, if each of them has only been a temporary symptom, the structural state of the kidney may either remain normal, and quite foreign to the albuminous filtration (as in class a), or undergo a little provisory modification, but soon return to its normal state:—if on the contrary, the pathological condition that causes albuminaria has been constant, then the kidneys become gradually altered, until a precise and special lesion proper to each cause results, but the lesion is always in relation with each of the three factors, that have so modified the renal functions, as to bring about the filtration of albumen.

We have thus the following table:

| | Causes. | Cod'n of kidneys. | Urea. |
|---|---|---|---|
| Chemical conditions of the blood. Discrasic albuminuria. | Presence in the blood of an excess of albuminoids coming from alimentation. | Kidney normal. | Maximum of urea, of sulphates and phosphates in the urine. |
| | Excess of albuminoids in the blood, due to defect in their combustion. | Irritative hyperæmia more or less intensive according to the organ, the function of which has been disturbed, as the skin, the lungs, etc. | Progressive diminution of urea in urine with accumulation in the blood: defect of production. |
| | Alteration in the chemical constitution of the circulating albuminoids so that they cannot be assimilated (cachexias). | Fatty degeneration. Amylaceous degeneration. | Diminution of urea according to gravity of the cause of cachexia. |

| | | | |
|---|---|---|---|
| Degree of pressure of the current of the blood. Mechanical albuminuria. | Several neuroses due to some influences on the vaso-motor-system. | Renal congestion of a short duration | Urea almost normal. |
| | Pregnancy and generally all the causes pressing on the inferior *vena cava* and on the renal veins. | Renal congestion of a long duration. | Urea in relation with causes of compression. |
| | The disease of the heart arrived at the stage of insufficiency, that is of the inversion of the arterial and venous tensions. | Permanent congestion. Cyanotic kidney. Cardiacus kidney. | Diminution of urea in relation with the disease. |
| Histologic al changes of the kidneys. Irritative albuminuria. | Nephritis and all the irritative causes of the kidneys in their different degrees. The albuminous filtration is in proportion with the function and with the influence that the inflamed element have on the mechanic is m of urinary secretion. | All the anatomical consequences of inflammation from the simple congestion and degeneration of epitheliums down to sclerosis and atrophy of the kidney. | Urea normal, or a little increased in proportion to fever (acute state). Diminution of urea without causing accumulation in the blood—in relation with the general defect of combustion. Diminution of urea on account of defective filtration; consequently accumulation of it in the blood. |

If we compare the clinical history of Bright's disease with the above related causes and considerations, we have to conclude that it does not exclusively belong to any of these three albuminurias; on the contrary, it comprises all of them; it is a mixed albuminuria.

Studied from this point of view, Bright's disease represents a constant evolution, and a perfect harmony exists between the nature of the causes, the symptons and the clinical form, which is characterized by the following facts, succeeding one another:

a—Exposure to cold and wet.

b—Failure in the functions of the skin; that is immediately followed by

1 Cutaneous ischæmia.
2 Accumulation in the blood of the exrementitious cutaneous substances.
3 Alteration of the albuminoids—and non-assimilation of the new albuminoids proceeding from the peptones.
4 Decrease of combustion of the albuminoids; consequently diminution in the production of urea.

During this first phase the kidneys remain completely strangers to the disease. At a later stage they become altered and present the following anatomical and chemical changes:

1st. Hyperæmia.
2d. Irritative effect of this hyperæmia (inflammatory results).
3d. Elimination of albumen.
4th. Progressive diminution of urea, as the consequence of the primitive defect of production.

Thus we have two classes of phenomena, that appear with insensible gradations, and are intimately connected with each other.

In the first class we have the symptoms of a general alteration of nutrition.

In the second we observe the signs of the anatomical changes of the kidneys, commencing with a very slow inflammatory process, and terminating with the gravest pathological modifications, which are constantly found in both kidneys.

This *bilateral renal alteration* is characteristic of Bright's Disease, and ought to be called *Bright's Kidneys.*

Bright's Disease then cannot be confused with the other albuminurias, whatever the causes that produce them, may be. I believe, in consequence, that the opinion of certain authors in admitting some forms of Bright's Disease caused by alcohol, gout, syphilis, etc., is not exact. Alcohol, gout, etc., may produce albuminura; but these albuminurias are the result of a general derangement peculiar to each cause, and can not be considered as Bright's Disease.

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## DIABETES MELLITUS.

By M. Hardy, *Gazette des Hospitaux*, November 18.

Gentlemen—The patient before you is that of a man aged 48 years. He is an old soldier who has been on duty up to his entrance in the hospital. Vigorous and well-built, he perceived since two years, that his strength was failing and that he was losing flesh. He had more thirst than usual and was forced to drink from four to five quarts of liquid per day; however he is not a tipler, and drank only to allay his exaggerated thirst, at times of pure water, at others of vinous water and of coco. He soon perceived that his appetite became as insatiable as his thirst; he eat more than two pounds of bread per day, with much meat and potatoes to satisfy his craving appetite. He urinated much and had constant desire to urinate, and was compelled to evacuate his bladder several times each night, and rendered about four to five quarts of urine per twenty-four hours.

Nevertheless his strength still diminished, and he grew weaker each day; he consulted a physician, who from the examination of his urine recognized a diabetic affection. He was

put upon appropriate treatment, prescribed a special regimen, eliminating bread, potatoes and sugar, and was advised to eat nothing else but meat and green vegetables. Under this happy influence, he improved somewhat, but did not recover complete health; he, however, resumed his painful duties.

Still some few months ago, he began to decline again in strength, and found his thirst and appetite increasing; being unable to persevere with his duties, he entered the hospital. You may perceive that he is still, apparently a vigorous man; but he has lost flesh, his skin is loose and flabby, not stretched upon the muscular tissues, which indicates a considerable difference between his present and former state, a comparison which no physician should neglect to establish, if he wishes to strictly satisfy himself between the progress of a disease and its effects.

With the diabetic the skin is usually dry; with our patient we have a slight difference; he perspires a great deal at night. His thirst is always acute, but he now drinks about two to two and a half quarts of liquid in the twenty-four hours. His appetite is at present less voracious, he is able to appease it. His venereal appetites are not as acute as formerly. The troubles of vision which we observe in him are more complex, because he is affected with serious disorders of refraction.

Finally, I point out a phenomenon which is scarce ever wanting with the diabetic, though it is almost negative in our patient: the diabetic has usually an acid mouth; the saliva has an acid reaction, which we are able to detect by means of blue litmus paper. The saliva in its normal state gives a neutral reaction; you may perceive that moistened in the mouth of my interne, the litmus paper scarcely reddens, whilst that which I place in the mouth of our patient is sufficiently reddened. His teeth are quite good and his gums not softened. But he presents a phenomonon, to which I especially call your attention, it is the redness and the hitchiness of his genital organs; the gland presents in a high degree the characteristics of preputial herpes (which is not herpes, but eczema); the hitching is acute and the secretions are profuse.

I here present you a second case of diabetes from the wards of Prof. Vulpian. He is a man aged 28 years, and has been a porter. He is quite strong and very vigorous. He is ill since only four months. Within the two past months only, has he perceived his strength failing and is losing flesh. He has lost more than twenty pounds in weight within the few past weeks. You may perceive that his muscular system is already affected, and that his skin is too loose and may be easily folded; this is a proof of a loss of flesh. His mouth is dry and sweet; he is continually hungry and thirsty. His thirst is so great that he is obliged to drink from seven to eight quarts of water per day; his thirst is so acute, he says "that were it urine I would drink it." He passed eleven quarts of urine in the twenty-four hours.

His tongue presents no characteristic symptoms; the reaction of the saliva is acid. Erotic desires are completely wanting since he entered the hospital. The symptoms have caused us to look for glycosuria. The urine is clear, limpid, abundant (five quarts) in twenty-four hours, with great density, 1.034; this would suffice to make the diagnosis. In fact, in interstitial nephritis, we find also a pale urine, uncolored, but its density does not range beyond 1.005 or 1.010. The examination of the urine with the liquor of Fehling has given the characteristic reaction of the presence of sugar.

The weight by the process of Bouchardat has given 290 grammes of sugar; the more exact one, by means of the saccharometer, has given 342 grammes of sugar eliminated in the twenty-four hours. On certain days, the amount attains 400 or 500 grammes.

We have here an acute case of diabetes, which in a few months, will bring our patient to the most profound cachexia, if we do not succeed in arresting the progress of the disease.

Here we have two diabetic patients who have attained two different periods of the disease, and I deem it useful to take advantage of this opportunity to make a study with you of this to-day very common disease. As the examination of the urine and the dosage (weight) of the sugar in diabetes mellitus, are such important operations, that all physicians should be able to make, at least quite approximatively; I will now enter into the study of this question, before touching upon its clinical relations.

If the examination of the urine is a rule in all diseases, the greater the reason why it should in diabetes. The quantity of the urine is already an important sign: it is sometimes increased to considerable proportions in diabetes. Our patient renders actually three quarts of urine, whilst that of M. Vulpian renders scarcely less than from six to eight quarts in the twenty-four hours.

The *density* is also greatly increased; taking by means of the arcometer of Bouchardat, it is in minimum with these two patients, 1.040. The color of the urine is in general, passibly pale; with our patients it is relatively, still sufficiently colored.

The main point in the examination of the urine of diabetes, is the search for the presence of sugar. Numerous processes have been imagined for this purpose. All are more or less defective; we will here only occupy ourselves with those which are accessible to the clinician.

A. The oldest is that of Moohr. We introduce some urine into a tube, and add two or three pastiles of caustic potash to it. We heat slightly the lower portion of the tube; the potash melts, then the inferior portion becomes of a brown color. This coloration becomes gradually of a sufficiently thick brown-red, and invades the total extent of the liquid. After a few moments of cooling, it becomes more brown, resembling much in color to old Malaga wine.

This process is still one of the best for the practitioner. With a coloration as brown as this which we find in the particular case, we may rest assured that the urine contains at least 40 grammes of sugar per quart; if the red tints were clearer, in examining the urine by means of transparency, we could still count about 30 grammes per quart. If the coloration be black as coffee, we can accept it as being more than 50 grammes per quart.

B. Let us examine the process of Luton, of Reims, without recommending it, but only to point out its defects. It consists in adding bichromate of potash and sulphuric acid to the urine, the urine becomes of a magnificent emerald-green coloration, when it contains sugar. But all ternary substances can produce this reaction. It only suffices that an individual should have made an excess of drink, for his urine thus treated to produce such an intensity of coloration. You perceive that with pure water, to which I added a trace of alcohol, I obtain this reaction, which is not at all characteristic of sugar.

C. Here is another process, which possesses a certain amount of value; we introduce some sub-nitrate of bismuth in a tube, two pastiles of potassa, then the urine. We heat the lower portion of the tube; the liquid passes from a white to a black color, to a real tint of the powder of charcoal, due to the metallic reduction of bismuth in presence of sugar.

With nitrate of silver, we obtain the same effect. But there are two causes of error: 1st. The presence of albumen, which reduces the metallic salts in presence of potash. We should separate the albumen by coagulating it by heat; and, in filtering it before seeking for glycose. 2d. Should the urine contain much uric acid, we obtain the same reduction. For uric acid is sufficiently difficult to separate from urine.

D. I come to the procedure of Barreswill, which rests upon the reduction of the cupro-potassic liquor. The liquor of Fehling (sulphate of copper, sel de saignette, lye of soda) is shown in such a manner that 10 cubic centimeters of this liqdor corresponds to 5 centigrammes of glycose. To seek for the presence of sugar, we pour the blue liquid in and we heat. This liquid, in fact, being very liable to decompose, we should ascertain by ebulution that it is not self reduced. If it remains limpid we introduce the urine in the tube (half less of urine than of the blue liquid), and we heat the *superior* portion of the tube. You immediately perceive a red coloration, yellow, greenish, intense, then the whole liquid takes or manifests an orange like coloration, characteristic of the presence of sugar.

The errors of this process pertains, 1st. To the presence of albumen, which may mark its reaction in reducing the liquid to a violet magma, we should then firstly eliminate the albumen by heat and filtration; 2d. in presence of substances which thus reduces the oxyde of copper, such as chloroform which passes in nature in urine, or creatinine in excess (but there

should be an immense quantity, at least 10 grammes per quart to produce so considerable a reduction, and it is quite seldom that we meet with 2 grammes per quart); 3d. in the presence of uric acid in excess, but the reduction is not the same. We meet here a pulverulent mass that light does not traverse, possessing a pure yellow orange tint, while uric acid produces a flocky reduction of large flakes leaving free intervals of space which light can traverse, and the reduction has more of a blackish-brown tint; the flakes are quite light and require from one to two hours to deposit, whilst that in glycosuria, the precipitate is abundant and falls rapidly to the bottom of the tube.

It may be interesting in a clinic to show the sugar in nature, to extract the glycose from the urine and to show it in its amorphous state. Here is a simple process, but which its lack of strict accuracy renders only satisfactory for the clinic. Take 200 cubic centimeters of urine, evaporate to dryness in a water bath in a porcelain capsule. The residue is washed with 50 cubic centimeters of alcohol, which carries off and dissolves the urea, the extractive materials, the salts and the chloride of sodium. This washing is repeated two or three times. Then treat the residue with ether, which carries off the fatty matters. There remains the glycose mixed to a very small quantity of insoluble mineral salts. Take up the residue by water raised progressively to the temperature of 40° or 50°. Filter and evaporate to a syropy consistency. By cooling the sugar deposits on the bottom of the capsules and finally we obtain in nature the chrystallized sugar which was contained in the 200 cubic centimeters of urine.

The dosage of the sugar contained in the urine may be obtained by four processes of quite different value:

1st. It can be made by means of the polarimeter. We introduce 100 cubic centimeters of urine in a balloon, and we add 10 cubic centimeters of a solution of the acetate of lead to deodorize the urine, which soon produces an enormous precipitate, which carries down the coloring matters and we filter. The filtered liquor is introduced in the tube of the polarimeter (tube let us say, of "22 centimeters" on account of its length), then we close the tube with the index of glass slipt laterally and obliquely, in order to prevent the introduction of bubbles of air, and we screw the metallic index.

This tube filled with distilled water is first put in place in front of the lamp; we look in the eye-glass, and we see a circle divided into two unequal parts by a black line, these two parts having different colors. We turn the screw situated beneath the eye-glass (from left to right), until that the two discs have an equal coloration. It is the zero of the gradation of the index. There is no sugar in the liquid of this tube (distilled water), we replace then this tube, by the tube filled with urine, and when we look in the eye-glass, we perceive that the two discs have

changed coloration and are not equal. We turn the screw in an inverse manner until the coloration be equal, pale rose, from both rides. We read the corresponding division on the index; in the particular case, we read the number 25. For each degree of the saccharometer corresponds to 2 gr., 256 of sugar per quart; then 25x2 gr. 256=56 gr., 400 of sugar per quart; and, as the patient renders 2500 grammes of urine in the twenty-four hours, we will have 56 gr., 400x2500=141 grammes of glycose.

This patient rendered 141 grammes of sugar in twenty-four hours. Before his treatment he rendered 225 grammees.

The dosage by the saccharometer is, of all processes the most certain and exact. J. H. W.

[TO BE CONTINUED NEXT MONTH.]

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## THERAPEUTIC ACTION OF THE FOUR ALKALIES OF THE GRANATUM (or Pomegranate), DESIGNATED UNDER THE NAME OF PELLETIÉRINE AS A TAENIFUGE.

By Dr. Berenger Feraud, Physician-in-Chief of the French Marine.

From the Bulletin Générale de Thérapeutique Médicale et Chirurgicale, October 30th, 1879, and November 15th, 1879.)

The Doctor, after having experimented upon 138 subjects, and with acquired experience of various doses and combinations, seems to have arrived at a very promising and satisfactory result. He considers that a solution of 50 centigrammes of the sulphate of pelletiérine, to which is added a solution of 1 gr. 60 of tannin, is much more effective than the pelletiérine when given by itself; that is, in putting the two bodies in suitable conditions to produce a real tannate of pelletiérine, we obtain a solution which is not repugnant to the taste joined to a greatly enhanced efficiency.

Mr. Tanret in his researches upon the granatum has called pelletiérine the active principle of the bark. He has discovered since that the granatum contained not only one alkaloid, but in reality, four, which he has isolated, and characterized by their action upon polarized light. Whilst awaiting the completion of the study which he is actively pursuing, we will after his method, call pelletiérines *a* and *b*, the two alkalies of which the sulphates are not decomposable by the bicarbonate of soda. These two alkalies are liquid and volatile; the first, *a*, is without action on polarized light, and the other, *b*, is laevigore (that is, deviates to the left the plan of polarization). The two other alkaloids, of which the sulphates are decomposable by the bicarbonate of soda, will be the pelletiérines *g* and *d;* the first, *g*, is volatile, crystallized and without action on polarized light; the second, *d*, is liquid, volatile and dextrogyre. It seems, then, natural that we should question whether each of these bodies possess alike taenifuge action, and the matter is not a simple scientifical curiosity; here may rest an important practical question, as we shall soon see. In fact, should one

or two of the diverse elements of the pelletiérine not possess a taenifuge action, depending upon this or that condition of vegetation, or, according as this or that vegetable part is examined, the respective proportions of *a*, *b*, *g* and *d*, differing, it might happen that for the same dose of the drug derived from such or such source, there might happen a different result. He, in consequence, experimented with the various precipitated alkalies, and we here append the result of acquired facts:

1. That the tannate of the alkali *a*, produced 17 undoubted successes out of 22 cases.

2. That the sulphate *b*, succeeded only in one case out of five, which corroborates my opinion that the sulphate, when not mixed with tannin, is a bad taenifuge preparation.

3. That the tannate *b* (sulphate to which tannin is added in the proportion of 4 to 5, or of 1 gr. 60 of tannin—one gramme and sixty centigrammes of tannin to fifty centigrammes of pelletiérine) has produced 7 good results to 9 trials. It is, then, I believe, a sufficiently good preparation, though less effective than the tannate *a*.

4. That the tannate *a*, *b*, has furnished 24 undoubted successes, 2 probable favorable terminations, and 4 failures; but these last *four* may be attributed in greater part to the patients more than to the passive action of the medicine.

5. That the sulphate *g* and the sulphate *d*, or yet again the sulphate *g* and *d* united, have failed each time, so that we are disposed to consider these alkaloids as having no taenifuge property whatever.

6. That the tannate *g* and the tannate *d*, or even again the tannate *g* and *d* united, are absolutely in the same condition.

From which we conclude that:

A. The pure sulphate, 'pares cum paribus,' is not affective in the expulsion of the taenia.

B. The sulphate, to which tannin is superadded in the proportions above cited, and in particular 50 centigrammes of pelletierine for 1 gr. 60 of tannin, is on the contrary quite preferable.

C. The alkalies *a* and *b*, or *a*, *b* united, are good taenifuge; *a* seems to me superior to *b* in its effects.

D. The alkalies *g* and *d*, or *g* *d* united, do not possess this taenifuge action.

This result being obtained, *i. e.*, finding that the alkalies *a* and *b*, under the form of *a* tannate, have a very happy expulsive effect under certain precautions to be taken. To obtain this result I have given the pelletiérine a. in the quantity of 30 centigrammes (sulphate 30 centigrammes: tannin 1 gr. 20) six times, I produced the head five times.

In another series of experiments, I gave the pelletiérine *a. b.* in the dose of 30 centigrammes, eight times, and I obtained the head seven times.

From various results, I consider that the dose of pelletiérine, *a*, is able to expel the taenia in the majority of cases, in the dose of 25 to 30 centigrammes; that the one of *a* and *b* united is 30 to 40 centigrammes.

In the dose of 30 centigrammes the sulphate of pelletiérine, additioned with 1 g. 20 of tannier, produces such light phenomena of intoxication, that I think that we might venture to give the drug to children above the age of ten years. I have no experience, however, my field being limited to observations of adult males.

In the various experiments, rendered above, I necessarily endeavored to find out which were the best conditions, to be successful, and I successively endeavored to solve:

1. The precautions to be taken on the day preceding its administration.
2. The variety of pelletiérine which would most likely succeed.
3. The combination which should be given.
4. The dose of the pelletiérine.
5. The manner of giving it.
6. The purgative to be employed.
7. What should be done during the action.
8. When should we renew the dose after an unsuccessful administration.

I enter into these details, for I consider that there exists an infinity of small precautions, upon which the success depends much more than upon the massivity of the taenifuge which we are administering.

1. *Precautions to be taken on the day preceeding the one in which the pelletierine is administered.* Usually on the day preceding the ingestion of the pelletiérine, I only allow for all aliment one or two quarts of milk and a small amount of bread. At the debut, I attached great importance to this and as in some few cases it happened that I had nevertheless succeeded in the expulsion of the taenia. It was mooted by me, whether it was not preferable to set aside this little precaution, for though not difficult of execution, it complicated the treatment somewhat, and might at times retard an urgent medication to a succeeding day. I am convinced to say that it is very important that we should put the patient upon an exclusive milk diet on the day preceding the giving of the pelletiérine. I would even say that I would scarce advise the allowance of even a small portion of bread to the milk.

To test the question upon this little point, I gave an identical preparation of pelletiérine to a certain number of patients, and this was the tannate *a*, *b*, (in the dose of 40 centigrammes of the sulphate to 1g, 60 of tannin), which I selected. These doses were from the same chemists, were given in the same manner; in a word, I endeavored to place things in a strictly alike condition. Well! I administered the drug eight times

without a preceding milk regimen, and I obtained six incomplete expulsions;—again, eight times I gave the preceding milk regimen, and in seven I obtained the taenia with the head. The eighth, which I relate as unsuccessful, is even doubtful, and pleads even to a strict milk regimen, for though the patient had taken milk, it is true; but being an enaemic, returning from Cochin China with a phagedenic ulcer, I allowed him a free regimen, he took also some meat-broth and ate a cluster of grapes. Such results convinces me that one of the important factors, in the taenifuge medication by pelletiérine, is a strict milk diet on the day preceding its expulsion. A want of strict attention to this rule, might expose to a reasonable failure.

*Why is it that success depends upon this procedure?* is difficult to answer; yet I am disposed to think that in placing pure milk in contact with the animal, we place it in osmotic conditions favorable to its more complete intoxication. Besides, what may be the explanation, let it suffice to say that experience has demonstrated a comparative result to react upon practice. Therefore, I recommend that milk as a strict aliment should be given on the day preceding, or at least for the evening meal preceding the injestion of the pelletiérine.

2. *Of the variety of the pelletiérine which we should preferably use.*—It is likely, if I rely upon my judgment, that the various results observed in the taenifuge action of the pelletiérine depends upon variable proportions of the diverse alkalies *a*, *b*, *g*, *d* of which we have just spoken. M. Tanret has observed that the alkalies are found in quantities relatively different, according as we operate with such or such vegetable part of the vegetable, in such or such season, with older or younger vegetables, and with more or less vigorous ones. Then, it is evident, since *g* and *d* have no marked taenifuge action, that if, by accident, they are found more abundant in a sample than in another, we might be liable to obtain different results in believing that we are acting in identical conditions.

The alkalies *a* and *b*, on the contrary, possessing an effective action, towards the expulsion of the taenia, I believe that we should preferably employ them instead of the whole pelletiérine, and using the terms of M. Tanret, I will say that it is desirable that we should only make use of the alkalies of the granatum "which are not displaced by the bicarbonate of soda." The alkaloid *a* has seemed to me sensibly more effective than the *b*, so that I am predisposed in its favor and willing to class it as first. But yet, I would add, that the pelletiérines *a* and *b* united have produced such good results, that I think, that I am able to accept their combinations as the preparation to be made use of in ordinary times, should the exclusion of the *b* be the cause of greatly raising the price of the dose of the drug.

3. *The form in which we should give the Pelletiérine.*—The results forementioned indicate that the pure sulphate is much

less active than when tannin is added to it. What, by abbreviation, I have in the preceding article called, somewhat improperly, *tannate* (when I referred to the proportions of 50 centigrammes of pelletiérine for 40 centigrammes of tannin), is infinitely preferable. I know that, theoretically, a tannate would require three times more of tannin, be it said, 50 centigrammes of pelletiérine and 1 gr. 60 of tannin, and we have an excellent, active taenifuge. I feared, at the starting point, that such a preparation would be too disagreeable to take, and it is why I added so small a proportion of tannin to the sulphate. The proportion of tannin which I made use of then, was of excellent effect, truly effective, and of easy ingestion; but I have since learned that in increasing the tannin, the liquor could still be taken without too great repugnance.

4. *The dose of pelletiérine to be given.*—As I just remarked, I tried to give 20 centigrammes of the sulphate united to 60 centigrammes of tannin, and I have come to the conclusion, by established facts, that the minimum dose for an adult should be 40 to 50 centigrammes of the sulphate of pelletiérine *a* and *b*, united to 35 or 40 centigrammes of pelletiérine *a* added to 1g 40 to 1g 50 of tannin.

5. *The manner of administering the pelletiérine.*—I have given it in various ways: in fractional doses at a quarter, a half and an hour's distance. I have finally adopted the plan of giving the whole dose at one time, and at the same moment to give the purgative. I have often given it in this wise: 1st. In a glass the sulphate of pelletiérine and the tannin to which is added some pure water. 2d. Immediately the purgative: 3rd. A glass of pure water immediately, to remove the bad taste. In this manner the ingestion is sooner finished, and with less chance of being rejected.

6. *The kind of purgative to be given.*—I have tried several purgatives: Sulphate of soda, citrate of magnesia, castor oil, tincture of jalap, (eau de vie allemande, Leroy's purgatif, etc., etc.,) infusion of the follicles or leaves of senna, and I adopted the latter for many reasons: 1st. In infusing 10 or 20 grammes of senna in 100 grammes of water, we obtain a brown liquid, bearing much resemblance to black coffee, to which 30 grammes of orange peel are added and at need a few drops of the tincture of pepermint, is infinitely less disagreeable to take than other purgatives. 2d. Because the elective action of senna upon the intestinal muscular fibre seems to recommend this drug in preference to many other purgatives, on account of the peculiar paresia which the pellietérine pronduces upon these fibres.

7. *What should be done during the action of the medicine.*—When I employed the salts of soda, castor oil and even dastric tinctures, I sought by every means to promote the above evacuations, and I must confess, that I was not always successful even with the assistance of croton oil, purgative injections and even 8 to 10 emollient enemas. Since I have adopted the

senna, I obtain evacuations with greater facility, so that purgatives and emollient injections have become less needful. Nevertheless I have recourse to enemas three hours after the ingestion of the tanifuge if there is no tendency to purgation, for I hold that the chances of expulsion are in great manner dependant upon the rapidity of the abvine motions.

8. *When should we attempt anew the medication after an unsuccessful attempt?* In my experience I have often given doses and varieties of the pelletiérine, which were either too weak or powerless to expel the worm, and it was natural that I should endeavor to find out how long we should wait before making a new trial. I have found out, that when we have succeeded in the expulsion of a greater or lesser portion of the taenia, by means of an alkali of the granatum, or when we have fruitlessly administered the *g*, or the *b*, we should wait a fortnight at least, even a month, before renewing. It is thus, for instance, that I have seen absolutely identical doses of the pelletiérine *a. b.* prove unsuccessful, when they were administered, two, four, eight days after an unsuccessful attempt; on the contrary, when tried fifteen days or three weeks later they were sure to succeed. It is customary, to think that when unsuccessful with a taenifuge, that we should wait until the worm had obtained a sufficient amount of new development before attempting anew the treatment. Whether the failure be due to a paresial effect upon the intestine by the pelletiérine, or whether it depends upon a special state of the worm, which affords it a certain amount of immunity to the intoxication.

Maturer experience of the effects of the drug upon the taenia, has led me to believe that it produces a rapid action upon the worm, producing a toxic effect, which prevents it from holding good by its cups during the space of a few hours. Should a proper purgative be administered at this moment, the peristaltic action of the intestines would carry it away, before it had regained sufficient vital energy to enable it to attach itself anew upon the walls of the intestines. Should this purgative action be otherwise too long delayed, or imperfectly carried on; this toxic state being dissipated, the head attaches itself de novo, and should the peristaltic action then take place with force, or the taenicide action prolonged, or be it, by the fact of the combination of these two phenomena, and the worm be broken towards its middle portion or at its slender or tapering portion, or at the beginning of its narrowing, and then, in spite of the expulsion of a greater or lesser length of the animal, we may comprehend that the parasite remains in the body, and will after a few months have acquired a length sufficientiy great for the situation to be relatively in like conditions as it was prior to the use of the taenifuge. Therefore, the problem consists for me, to combine the two actions taenecide and purgative in order to obtain success; and it is for this that I prefer the tannate to the sulphate of pelletiérine, for the reason that it is

easier to produce a purgative action with the tannate than with the sulphate.

*Action of the pelletiérine upon the intestines.*—It seems to exercise a special paresic action upon the intestines, a true paresia or momentary and partial paralysis of the intestines, having for effect to arrest the course of matters contained within its cavity. The sulphate enjoys this property more so than the tannate; though the tannate possesses it also but in a less degree; so that with certain individuals predisposed to sluggishness of the bowels, the intestines remained unmoved, which somehow predisposes to a failure.

*Why is the tannate more successful than the sulphate.*—M. Tanret thinks that it is less rapidly absorbed by the stomach, so that a greater amount of the medicine reaches the intestines, and he believes also that being carried into the channels of the circulation, it is not as apt to provoke paralysis of the bowels, which is evidently one of the unfortunate conditions preventing the expulsion of the helminthe. On my part, I am quite disposed to adopt this view, inasmuch as it explains the good effects of the senna purgative, and as in toto, the results accord with the theory. Be the hypothesis correct or not, still it accords with our purpose in the great end, that is, that it brings forth the taenia (head and tail.) J. H. W.

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## THE PHYSICAL CAUSE OF INTERMITTENT FEVER.

The July number of the *Zeitschrift*, editedby Professor Klebs, contains some particulars of an investigation into the physical cause or poison to which marsh or intermittent fever is due.

The inquiry was conducted by Prof. Klebs, of Prague, in conjunction with Signor Tommassi, professor of Pathological Anatomy at Rome. The two investigators spent several weeks during the spring season in the Agro Romano, which is notorious for the prevalence of this particular kind of fever. They examined minutely the lower strata of the atmosphere of the district in question, as well as its soil and stagnant waters, and in the two former they discovered a microscopic fungus, consisting of numerous movable shining spores of a longish oval shape. This fungus was found to be artificially generated in various kinds of soil. The fluid matter obtained was filtrated and repeatedly washed, and the residuum left after filtration was introduced under the skin of healthy dogs. The animals experimented on all had the fever with the regular typical course.

After explaining minutely the results of their various investigations and experiments, these gentlemen are of the opinion that they have discovered the real cause of the disease in question. As the fungus grows into the shape of small rods, Tommassi and Klebs have given it the name of Bacillus Malaria.—*Medical Times and Gazette,* Oct. 18, 1879.

## THE CONDITION OF THE CERVIX UTERI IN CASES OF PLACENTA PRÆVIA.

Dr. George Roper, Physician to the Royal Maternity, London, calls attention (*Lancet*, Oct. 25th, 1879) to a hitherto unrecorded fact, which consists in a peculiar induration of the os or cervix uteri, at the site of the placental attachment, dependant on an alteration of the uterine texture of that part on which the placenta is implanted. From clinical observation it may be said, that wherever the placenta grows, whether on the fundus or elsewhere on the inner uterine surface, the area of attachment is marked by induration and thickening of the uterine tissue, and in Dr. Roper's experience the induration has constituted one of the greatest difficulties in the way of safely effecting forced delivery.

If we have to deal with a case of *placenta prævia* in which the placenta is centrally placed, then there is induration of the entire circumference of the inner os; if with one of a partial kind, then we have a demonstrative proof, in that we are able to compare that part of the os internum to which the placenta is attached, with that portion to which it is not attached; the former will be found indurated and unyielding, the latter soft and elastic.

Dr. Roper does not wish to be understood as overlooking the undeveloped state of the lower part of the uterus in these cases, occuring as they mostly do before full term: and in speaking of the os or cervix uteri, he means the os or margin of the orifice of the uterus proper. A great distinction is to be drawn—the os internum, which is firm and thick, and the thin flabby cervix with its soft outer os.

The limits of Dr. Roper's paper did not permit him to dwell on the importance of this condition in reference both to the treatment of placenta prævia and its prognosis after forced delivery.

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## THE THERAPEUTIC VALUE OF CROTON CHLORAL,

In a very interesting paper read before the Ulster Medical Society, Dr. Riddell (*Dublin Medical Jaurnal* April, 1879), reports his experiences of the great therapeutical value of croton (batyl) chloral.

He mentions a case of severe paroxysmal headache ineffectually treated for many years by all the usual remedies of the Pharmacopæia, but cured by 5 grains of batyl chloral twice daily and 10 grains taken at night, dissolved in spirits of wine and glycerine, with a little acid and syrup of orange to cover the flavor. The patient continues the 5 grain doses at night, and now enjoys better health than she has done for years. Since that case, Dr. Riddle says he has used it largely—sometimes failing—sometimes relieving—till, by keeping an account of all his cases, it began to be clear which were most benefited

by the drug. Since then the number of cases relieved (some permanently) has increased. These cases are: Headache in females from mental distress; those case of headache frequent at the menopause—in fact, all those called neuralgia, except a few arising from internal mischief are benefited, and in many instances cured. In that distressing species of neuralgia called tic-douleureux, he has found it in many instances acting like a charm. Of course he does not include any arising from cranial or intracranial causes. He has tried it in neuralgia of the ovaries but no good resulted.

In insomnia, it is not so reliable as the hydrate: but in some cases, where the loss of, or inability to, sleep is accompanied by a week or fatty heart, it is to be preferred, as it has no weakening effect on the central organ of the circulation. In one case of delirium tremens, where the circulation was very feeble, the combination of croton chloral with digitalis had a wonderful effect, and it seemed as if the drugs could be given together in much smaller doses to produce the same results than singly. In this case he pushed it from ten to thirty grains every three hours, with drachm and two drachm doses of the infusion of digitalis. In pain arising from caries of teeth, he has found it useless in most cases, and in all to Richardson's "tinctura Gelsemini," but in one case, of a nervous young lady, by giving her two ten grain doses, he was able to extract a tooth next to painlessly, to her great satisfaction.

It is in affections of those parts supplied by the fifth pair of nerves that it is of most use; but to be of service, the drug must be given in far larger doses than prescribed in the pharmacopæia for adults, five grains three or four times daily, gradually increasing if required; if stimulants be wanted, dissolve it in rectified spirits; if not in glycerine. In all cases complicated with hemorrhoids, give in glycerine, If anæmia exists, combine it with iron, or, what he believes better, arsenic; then gradually lessen the chloral. In all cases he has found it better to give it in solution than in powder or pill. Dr. Riddell mentions also severe pain with photophobia and blepharospasm after injury, in which atropia failed, but ten grains of butyl-chloral repeated in an hour gave complete relief; and a case of acute painful facial carbuncle, in which the effect of ten grains doses every 3 hours was "simply marvellous," the disease going through its frequent stages almost without the patient knowing anything of the matter from the sense of feeling.—*British Med. Journal*, May, 1879.

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### DEFIBRINATED BLOOD FOR RECTAL ALIMENTATION.

At a late meeting of the Therapeutical Society of New York, Dr. Agnew H. Smith, Chairman of the Committee on Restoratives, presented a report (*New York Med. Journal*, April, 1879) on this subject. From the facts before them the

Committee felt warranted in drawing the following conclusions:—

1. That defibrinated blood is admirably adapted for use for rectal alimentation;

2. That in doses of two to six ounces it is usually retained without any inconvenience, and is frequently so completely absorbed that very little trace of it can be discovered in the dejections;

3. That administered in this way once or twice a day, it produces, in about one-third of the cases, for the first few days, more or less constipation of the bowels.

4. That in a small proportion of cases the constipation persists, and even becomes more decided the longer the enemata are continued.

5. That in a small percentage of cases irritability of the bowels attends its protracted use.

6. That it is a valuable aid to the stomach whenever the latter is inadequate to a complete nutrition of the system.

7. That its use is indicated in all cases not involving the large intestine, and requiring a tonic influence which cannot readily be obtained by remedies employed in the usual way.

8. That in favorable cases it is capable of giving an impulse to nutrition, which is rarely if ever obtained from the employment of other remedies.

9. That its use is wholly unattended by danger.

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### ON THE USE OF ETHER WITH COD LIVER OIL.

The same committee (*ibid.*) from an investigation of the evidence before them felt warranted in drawing the following conclusions:

1. That the addition of ether to cod liver oil in about the proportion of 15 minims to each half ounce (or an equivalent amount of the comp. spirit of ether) will succeed in the vast majority of cases in enabling the patient to take the oil, even though it previously disagreed.

2. That in some cases in which the oil still disagreed after the addition of the ether, the difficulty may be overcome by giving the ether separately from fifteen minutes to half an hour after the oil is taken.

No facts have been laid before the committee having a bearing upon the question as to whether the etherized oil is superior to the plain oil in its ultimate effect upon nutrition, supposing them equally well tolerated by the stomach.

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### EFFECTS OF CHLOROFORM, ETHIDENE AND ETHER IN BLOOD PRESSURE.

Drs. Joseph Coats, William Ramsay and John G. McKendrick, of the Committee on Anæsthetics of the British Medical Association, report (*Jour. of Anat. and Phy.*, April, 1879), that

the facts obtained from their researches seem to them to warrant the following conclusions:

1. Both chloroform and ethedine administered to animals have a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind.

2. Chloroform reduces the pressure much more rapidly and to a greater extent than ethedine.

3. Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded, or even stopped. The occurrence of these sudden and unlooked for effects on the heart's action seems to be a source of serious danger to life, all the more that in two instances they occurred more than a minute after chloroform had ceased to be administered, and after the recovery of the blood pressure.

4. Ethidene reduces the blood pressure by regular grad ations, and not, so far as observed, by these sudden and unexpected depressions.

5. Chloroform may cause death in dogs either by primarily paralyzing the heart or the respiration. The variations in this respect seem to depend to some extent on individual peculiarities of the animals; in some the cardiac centres are more readily effected, in others the respiratory. But peculiarities in the condition of the same animal very probably have some effect in determining the vulnerability of these two centres respectively, and they may both fail simultaneously.

6. In most cases respiration stops before the heart's action; but there was one instance in which respiration continued while the heart had stopped, and only failed a considerable number of seconds after the heart had resumed.

7. The use of artificial respiration was very effective in restoring animals in danger of dying from the influence of chloroform. In one instance its prolonged use produced recovery e.en when the heart had ceased beating for a considerable time.

8. Under the use of ethidene there was on no single occasion an absolute cessation of the heart's action, or of respiration, although they were sometimes very much reduced. It can therefore be said that, though not free from danger on the side of the heart and respiration, this agent is in a very high degree safer than chloroform.

9. The results confirm and amplify those stated in a previous report, to the effect that ethidene does not compromise the heart, as does chloroform. By the methods of experimentation then employed, the effect on the blood-pressure could not be determined, and altogether the results here obtained are more exact and unequivocal.

It may be added that, since last report, ethidene has been given to a number of patients of all ages, with results which may be described as satisfactory.

Given freely at first, it produced anaèsthesia as rapidly as chloroform, and the effect could readily be kept up by comparatively small subsequent doses. The only drawback is that in some cases it produced vomiting; but it is not determined that it does so more frequently than chloroform, over which it has the further advantage of producing less excitement, and being more agreeable to the patients.

Iso-butyl chloride was given to three patients, but it produced considerable excitement, and proved an imperfect anaèsthetic. It has therefore been abandoned.

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THE TREATMENT OF POST-PARTUM HEMORRHAGE.

This brings me to the discussion of the agent to which I wish to call the attention of the Fellows of this Society as *the* remedy for post-partum hemorrhage, occuring under the conditions I have laid down, and in cases when the ordinary remedies of friction, pressure, ergot, cold, etc., etc., have failed. This remedy is common vinegar. I claim no originality in suggesting it. I will merely state that I have used it, alone, as my last resort, both in hospital and private practice, in many (apparently desperate) cases of post-partum hemorrhage, and invariably with successful results. I have taught the use of vinegar to my classes since 1854, and though I am in constant receipt of reports of cases from my former pupils in which they have relied on vinegar—often in seemingly hopeless conditions—in all these years I have received the report of but one case where the remedy failed to check the hemorrhage. In this instance, my friend happened to have access to a galvanic battery, and the electrical current at last proved the needed stimulant to secure uterine contraction.

Vinegar I have found not only a certain remedy for post-partum hemorrhage, but a remedy as safe as it is certain to cure. In the many very bad cases where I have used it the hemorrhage was always arrested, and in but one instance did the woman subsequently die, and in this case neither I nor the immediate attendant (my friend Prof. John Neill) had any reason to attribute the woman's death (neither did we) to the vinegar I had used to check a most appalling case of flooding. In the many reports which I have received from my former pupils on this subject, I have yet received none where any unfortunate results have followed the application of vinegar.

Vinegar presents the following advantages as an invaluable remedy in the treatment of obstinate cases of post-partum hemorrhage, where the difficulty to be overcome is a want of shrinkage in the uterine muscle. In the first place, it can always be easily obtained—every household, even the humblest, having a vinegar cruet. In the second place, it can be applied instantly, and without any apparatus. In the third place, it always cures the hemorrhage, or rather, I should say, it has never failed to do so in my practice. It is sufficiently irritating

to excite the most benumbed and sluggish uterus to contract, while, at the same time, it is not so irritating that its subsequent effects are injurious. Fourthly, it is an admirable antiseptic. Professor Zweifel, of Erlangen, in his recent paper on the prevention of puerperal fever, considers vinegar an excellent substitute for carbolic or salicylic acids.[1] Fifthly, it acts on the lining membrane of the uterus, and on the gaping orifices of the torn utero-placental vessels as a valuable astringent. Vinegar I suggest, then, to the Fellows of this Society, as a most valuable remedy in post-partum hemorrhage depending on inertia, possessing the advantage of the solutions of the persalts of iron, of the tincture of iodine, and, may I not add, even also all the advantages of the actual cautery; while its use is attended by none of the difficulties, and followed by none of the dangers that attach to these remedies.

I have just stated that vinegar may be applied instantly and without apparatus—perhaps I should mention precisely my method of using it. I pour a few tablespoonfuls into a vessel, dip into it some clean rag or a clean pocket handerchief. I then carry the saturated rag with my hand into the cavity of the uterus and squeeze it: the effect of the vinegar flowing over the sides of the cavity of the uterus and through the vagina is magical. The relaxed and flabby uterine muscle instantly responds. The organ at once assumes, what I will term, its gizzard-like feel, shrinking down upon and compressing the operating hand, and in the vast majority of cases all hemorrhage ceases instantly; should one application of vinegar fail to secure sufficient contraction, the hand can be withdrawn, and a second or even a third application can be made, until the uterus shall contract sufficiently to stop the flow of blood.

Had I time, it would have been desirable to discuss this interesting subject at greater length and more completely. Thus it may be asked, suppose you should meet with a case of hemorrhage where vinegar failed to excite sufficient uterine irritation, and, consequently failed to arrest the flooding—what should be done? My reply is, that, while such a case is supposable, it is extremely improbable. *I* have *never* met with one, and but one has been reported to me. My treatment, however, in a case where vinegar failed, would be at once to resort to the application of the solution of the persalts of iron. I should do so too with confidence that the remedy would stop the hemorrhage, but, at the same time, I should consider my patient placed in great additional danger by the use of my cure, and I would employ it only on the ground that desperate diseases justify the employment of heroic measures. If this view be accepted, we are to consider the persalts of iron as the last and extreme remedy to be resorted to in case of flooding; never to be used save in those cases of uterine inertia where the simpler

(1). *Monthly Abstract of Medical Science*, June, 1878.

and safer remedy of vinegar has failed; and, inasmuch as vinegar seldom or never fails to cure uterine inertia, the persalts of iron are seldom or never to be employed in its treatment.—Dr. R. A. Penrose, *Gynecological Transactions*, Vol. 3.

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## LEGISLATION FOR INEBRRIATES.

There is in England a "Society for Promoting Legislation for the Control and Cure of Habitual Drunkards." Its objects are to secure the enactment of statutes under which confirmed and habitual drunkards can be sent, by municipal and other local authorities, to "retreats," or institutions especially designed for this class, where they will receive regular and appropriate treatment.

The objections which have been urged to these aspirations are that such enactments encroach on individual liberty, which is so dear to all English speaking people; that they would be liable to abuse, for the sake of gain; that they involve the maintenance of large and costly institutions; that confirmed inebriates are almost never really "cured" by treatment in such institutions; that owing to domestic inconveniences such laws would be but partially taken advantage of; that drunkenness is a moral perversity, and ought to be met by moral and religious teaching rather than physical restraint; that the diagnosis of "habitual drunkenness" is vague and uncertain; and the like.

It is not worth while to do more than mention these various objections. Their consideration is occupying the attention of specialists of this branch in most civilized countries. The importance of taking some active steps to foil "the demon intemperance" is very generally recognized.

There are not wanting enlightened and thoughtful men in this country who have espoused the cause with enthusiasm; and were the powerful temperance organizations which flourish among us enlisted in the struggle, we should not wait long to see such enactments spread on the statute books. The editor of the *Quarterly Journal of Inebriety* says, in his last issue—

"The time has come for an intelligent recognition of all the means of relief. Every town and city is menaced by an army of inebriates, who are rushing down to ruin, breaking up all order, morals and industry, and leaving entailments of disease and degradation that centuries cannot eradicate.

"The great principle of self-protection must be recognized practically in this statement, that whenever a person habitually fails to exercise self-control in the use of alcohol and other narcotics, he is either a dangerous person or a public nuisance. It is the duty of the authorities to take care of such men, to protect them and society from the consequences of their excesses. They should be isolated in asylums, the same as in

cases of infectious diseases, and if to this can be added means of self-support, it is demanded, as a measure of the highest wisdom and economy to all.

"Inebriety must be regarded as a physical disease, if we would understand the hidden forces which govern its march along the lines of civilization."

This last sentence is not quite clearly expressed. In physical diseases we do not forcibly shut up patients; rather let us say that the inebriate suffers from a mental disease, that he is of alienated mind, in the eye of the law, *non compos mentis*. True enough, that advanced alienists claim mental disease as merely a sign of cerebral pathology; but we now use terms in their ordinary and legal senses.

As a dangerous person, the confirmed drunkard should be isolated, less for his own benefit than for the safety of those around him, less as a means of promoting temperance than for the protection of the social state. The excuse for every violent encroachment by government on individual liberty, it must always be borne in mind, is not "to make an example," nor to reform, but solely to protect the well doing in their legitimate pursuits. As the occasional inebriate, when "drunken and disorderly," is forthwith shut up in the station house until he grows sober, so the constant inebriate, who is drunk and more or less dangerous substantially all the time, should, with like legality, be put behind the bars for a much longer time. Take the instance of a woman, a girl, or a wife and mother who is an habitual sot; what disgrace and destruction to herself and her family she may work! Yet no one has the strict legal power to remove her from the temptation she cannot resist. If she is of good family, a point will be stretched, and she will be sent to a private asylum, on a certificate of insanity; but if poor, she will drag down with her all her family. What physician of extended practice cannot recall various examples of this kind? They call loudly for action by the properly constituted authorities.—*Philadelphia Medical and Surgical Reporter*, December 6.

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### WATSON ON THE EXTERNAL ORGANS OF GENERATION IN ANIMALS AND IN HERMAPHRODITES.*

Whilst the comparative anatomy of the internal genital organs has thrown much light on the nature of fœtal relics in those structures in our own species, the study of the external genitalia in the lower animals is of particular interest in the explanation of complicated forms of hermaphrodism. Their structure and variations, however, explain rather than prove; for, as Professor Watson remarks, the only true reliable sexual characteristic is the nature of the genital gland. If that body

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*The Homology of the Sexual Organs illustrated by Comparative Anatomy and Pathology. (*Journal of Anatomy and Physiology*, vol. xiv, p. 55). See also* LONDON MEDICAL RECORD, *Nov. 1879, p. 429.*

display the characters of a testicle, the subject is a male; but, on the other hand, if it be histologically an ovary, the so-called hermaphrodite is strictly female.

Early in fœtal life, in our species, the cloaca becomes divided into two parts by a partition. The posterior division, representing the portion of the sac of the allantois which communicates with the alimentary canal, now becomes the outlet of that canal, an invagination and subsequent opening of the integument forming the anus. Every surgeon knows that any degree of arrest of this process of development, from absence of the rectum to simple atresia ani, may exist without any malformation of the genitals. The anterior division of the cloaca is the genital fissure. A projection buds from its front part; this is the penis or clitoris. The margins of the genital fissure in the male coalesce, receive the testicles, and become the scrotum; in the female, they do not unite, but remain apart as the labia externa. The projection, too, in the male, closes inferiorly, a part of the urethra running between the first formed or budding, and the inferior or coalescent portions. Hence the spongy portion of the urethra and the corpus spongiosum are added on to the primitive organ. In the human female, this organ remains undeveloped. Its lower surface is grooved, and the margins, not coalescing, become the labia minora. Hence, in women there is no spongy portion of the urethra. Close to the base of the genital member a gland is developed on each side. The pair are Cowper's glands in the male, Bartholini's in the female. Professor Watson considers them to be important landmarks in determing homologies.

The female urethra, which has the vagina behind it, represents the upper portion of the prostatic part of the male urethra, which bears the verumontanum on its floor. On this eminence lies the vesicula prostatica, the homologue of both uterus and vagina. Between the female meatus urinarius and the orfices of Bartholini's glands is the vestibule, representing that part of the male urethra which lies between the vesicula and the openings of Cowper's glands; in short, the vestibule is homologous with the lower part of the prostatic, the whole of the membranous, and a short segment of the spongy part of the urethra. The extreme shortness of the vestibule in woman, compared to the length of its homologue in man, is remarkable; but in many animals it is very long, and its homology is therefore much plainer.

The homologies of the external male organs are elucidated by comparative anatomy and by teratology. In the penis of the opossum we see, among mammals, the closest approach to the female homologues of its constituent parts, for not only does the glans remain bifid, but the corpus spongiosum is double throughout life, closely resembling the vaginal bulbs. Non-coalescence of the margins of the genital fissure in men exists as the deformity termed hypospadias; but here the floor of the

urethra is deficient, which is not the case in the opossum. In the most extreme forms of hypospadias, the whole of the spongy part of the urethra is practically absent, its upper wall alone remaining as a groove along the lower border of the penis. This member is in such instances very small and ill-developed, resembling a clitoris; the bulb is absent, and represented by two folds like the female labia minora; the testes are undescended; and the scrotum is undeveloped, two external labia existing in its stead. Yet the internal organs retain the male type. Between the labia minora a *cul-de-sac* may be sometimes found, an involution of integument made to meet a vagina which does not exist. A little reflection on this extreme form of hypospadias shows, as Professor Watson remarks, "that the narrow elongated uro-genital canal of the male may be occasionally transformed into the characteristic vestibule of the female." The deformity constitutes transverse hermaphrodism, the inner parts being male, the outer female.

The homologies of the vestibule in the human female are thus made more clear when the elements of the male organ are imperfectly developed. It is the shallowness of the vestibule that makes comparison so difficult, since it is but one inch deep, the vagina measuring about six inches. But science again clears the difficulty, as it does in the case of males. In many animals the vestibule is very long. Owen has shown that in the American monkeys it equals in length the vagina. It is in these animals, too, that the clitoris is of great length; in the spider-monkeys it is pendent, and closely resembles a penis, but it remains simply grooved underneath, as in some cases of hypospadias in man. In some of the lemurs, the grove of the clitoris closes in below; this is also the case in the mole, and in some rodents. Thus that organ serves for micturition like a penis. In the hyæna, the urethra traverses the clitoris also, and its floor is not formed by a mere coalescence of the margins of the groove in the upper part, but actually of what in other female animals would be the nymphæ. The whole organ is elongated and pendulous, and provided with a prepuce, closely resembling the penis of a male hyena. But the erectile tissue of the vaginal bulbs remains bilateral in the female

Again, in human female monstrosities, the clitoris is sometimes found to be abnormally grooved beneath and largely developed. By the pure light of science a large clitoris is merely a sign of inferior type, just as certain ape-like characteristics are sometimes seen in man, even among civilized races and refined individuals. A careful study of Professor Watson's paper ought to correct certain mischievous and repulsive ideas still prevalent in the medical profession, and more than once the cause of discreditable practices among its members. It seems to us as illogical and unfair to attribute enlargement of the clitoris to bad habits, as it is to explain the traditionally violent sexual instincts of the male goat to the fact that his vesicula

prostatica is much more like a female uterus and vagina than that of any other male animal. None of the variations in the organs of normal animals, as described above, bear any relation to the variations in their sexual appetites.

Professor Watson concludes his highly instructive monograph with remarks on the more complicated varieties, hermaphrodites, basing the determination of sex, as we have already observed, entirely on the presence of ovaries or of testicles. ALBAN DORAN.

*London Medical Record*, Dec. 15.

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RETENTION OF URINE IN ELDERLY MEN.

Dr. S. W. Gouley (*New York Medical Record*, vol. xvi., No. 8, 1879), in a clinical lecture on this subject, speaks as follows:

A safe rule for your guidance in the management of cases of acute retention of urine of forty-eight hours' duration, is never to draw off more than one-third of the contents of the bladder and to do this very slowly, by half closing the distal end of the catheter, so that the urine will flow in a very small stream. Having collected half a pint, close the catheter for a quarter of an hour, then let another half-pint flow, and so on until the required quantity has been obtained. In two hours repeat the catheterism if the first has been easy,—otherwise the catheter should be closed, and left in for twenty-four hours,— and remove again the same quantity very gradually, and at the expiration of another period of two hours you may completely empty the bladder, always slowly; and in this way you will have taken the necessary precautions to avoid both cystorrhagia and polyuria. Every three hours after the last catheterism the urine should be drawn off until the patient can pass it spontaneously; if he cannot do so, of course the catheter will have to be resorted to at such intervals as mey be found necessary. You will aiso have to treat the existing vesical inflammation and atony. For general medication I would recommend the tincture of chloride of iron in five- minim doses three times daily, and also diluent drinks, such as thirty grains of citrate of soda or potash in half a glass of water three times daily, and in a few days, for a change, dog-grass tea, etc. Topically, lumps of ice the size of the last joint of the thumb should be introduced into the rectum in rapid succession as fast as they melt, for an hour, night and morning. A bag of ice may be afterwards applied alternately to the perineum and hypogastrium for an hour or more. Each time the bladder is emptied by the catheter, a couple of ounces of cold borax solution, from five to ten grains to the ounce, should be thrown in and allowed to run out slowly, then two more, and two more ounces which should be left in and the catheter withdrawn; this can be accomplished in five minutes. No preparation gives me more satisfaction than the borax solution for cleansing

bladders which contain offensive purulent urine. It is as well to have in readiness a strong solution of borax in glycerin; one ounce of the biborate of soda will be readily dissolved by six ounces of glycerin, each drachm of such a solution being equal to ten grains of biborate. In a week or thereabouts, if the case should progress well, the irrigations may be diminished in number until only one is used each day. In some cases a mild faradic current is serviceable.

Besides hemorrhage, polyuria, as I have already said, is very apt to follow the sudden evacuation of an overdistended bladder, and you will generally prevent its occurrence by observing the caution that has just been given. I know of a case of polyuria which followed the withdrawal of three pints of urine in the course of one hour, one pint at a time, the third pint completely emptying the bladder. The catheter was left in, and every hour for twenty-seven consecutive hours one pint of urine was drawn. After this the amount of urine gradually diminished, until only six pints were removed each twenty-four hours. At the end of three months it was reduced to four pints daily.

The case just cited is exceptional, for ordinarily it is safe to empty the bladder—slowly, of course—at one catheterism, when the patient is seen during the first twenty-four hours of an attack of acute retention.—*Philadelphia Medical Times.*

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## THE BELLEVUE TRAINING SCHOOL FOR NURSES.

The annual meeting of this excellent institution was held on the 11th of December at the Nurses' Home, adjoining Bellevue Hospital, New York. Mr. William E. Dodge, Jr., presided, and a considerable portion of the visiting and house staff of the hospital were present in the large audience. Mr. Dodge read the annual report, in which it was stated that the hope entertained at the commencement of the work in 1872, that the school might become a college for the training of nurses and one of the recognized institutions of the country, had been realized. The pupils on entering were required to pass a preliminary examination in reading, writing, arithmetic, and English dictation. At the end of the first year they passed a second examination on the practical and theoretical duties of a nurse, and at the completion of the two years' course a final examination, of similar character, before a board composed of distinguished physicians and surgeons. Since the regular establishment of the school in May, 1873, ninety nurses have been graduated from it. Of this number two are in responsible positions as heads of training schools or matrons of hospitals, two are nurses among the poor, two have entered sisterhoods, and fifty-nine are still professional nurses. From this record, the report continues, it will be seen that the school has given an honorable, self-supporting occupation to a class of women whose intelligence and disposition

have proved them to be fitted for it, while the continued and increasing demand for their services in hospitals and private families speaks favorably for the quality of the service they render.

All the female wards of Bellevue Hospital, two male wards, the Sturgis Pavilion, and the lying-in department are now nursed by the pupils of the school. In the Lying-In Hospital there have been one hundred and thirty-three births, and only one death from puerperal fever has occurred during the year. In the words of one of the visiting physicians, "The patients confined within its walls have enjoyed as great an immunity from infectious puerperal diseases as in the best private practice. The accomplishment of such results has been rendered possible only by the faithful, conscientious, and intelligent care rendered by your nurses, to whom I am glad to present my grateful thanks." The building appropriated to this hospital, having originally been an engine house, was in many respects unsuitable for its present uses, but in consequence of the liberality of Mrs. Wm. H. Osborn, such additions and alterations were made that it is now as comfortable and convenient as could be desired. To the same benevolent source Bellevue owes the erection of the Sturgis Pavilion, for the treatment of acute surgical cases. A record is kept by the superintendent of the conduct and efficiency of each nurse during her two years' training, and after she leaves the school, if she wishes to continue her connection with the society, and obtain employment through its means, she is required to report at stated periods, in order that her diploma may be renewed.

In the original plan of the school was included the work of nursing among the poor, and it has never been lost sight of, though the managers have not yet been able to carry it to the extent they desire. They report, however, that the work has been successfully begun by the female branch of the New York City Mission, and by the Society of Ethical Culture, presided over by the Rev. Dr. Felix Adler. There is appended to their report a letter from Dr. Adler on the beneficial results of trained nursing among the poor, and this contains the following extract from the report of one of the district physicians of the Demilt Dispensary in regard to the services of the nurse working under his direction: "She has a quick perception of what is needed, and she readily and cheerfully does it, no matter how repulsive the task may be. She visits patients intrusted to her care at unexpected times, that she may see them as they are from the beginning to the end of their sickness. One must take time to win the confidence of these people, and find out the secrets of their poverty and distress, and so know how not only to alleviate but often to prevent misery. This work the nurse is doing steadily and faithfully, and the information she brings me is invaluable. The only wonder to me now is how I got on with these cases without a woman's help. She visits from morn-

ing to night, seeing that my medicines are given as directed, inaugurating and enforcing much needed sanitary measures, often making with her own hands articles of clothing for the sick, while she distributes with judgment the articles so generously supplied by your society. Surely the blessings of many ready to perish will be hers, for not one of them speaks of her but with the kindest expressions of gratitude and regard."

The good health that the pupils of the school have enjoyed proves that their occupation, when properly conducted, is not injurious. Only two deaths have taken place in seven years, and during the past summer there was not a case of illness in the school. Care is taken that the nurses shall not be overworked, and that the diet shall be generous and good, while the bright and comfortable home in which they live when not engaged in the hospital no doubt contributes largely to the maintenance of their health.

In concluding their report the managers offer their thanks to the head nurses and to the graduates: to the former for their loyal devotion to their work, not only in instructing their pupils, but in the example they set of a faithful and tender performance of painful and at times repugnant duties; and to the latter for the good work that they have done wherever their lot has been cast, among the rich or poor, in hospitals or asylums, thus reflecting credit upon the school, to which they always gratefully acknowledge their obligations.

On this occasion diplomas were awarded to twenty-three graduates, twelve of whom were from New York, two from New Jersey, one from Massachusetts, one from Maryland, one from North Carolina, one from Tennessee, one from Ohio, one from Michigan, one from Connecticut, one from Canada, and one from Holland. Each graduate was also presented with a pocket-case of instruments. The annual address was delivered by Dr. William M. Polk, professor of obstetrics in the University Medical College, and in the course of it he contrasted the present condition of hospital nursing and the advantages for obtaining good nurses with the state of affairs that existed when he entered the medical profession, only a few years ago.

It is expected that during the next year there will be one hundred and fifty pupils in the school, applications for admission having been received from all parts of the country.—*Boston Medical and Surgical Journal*, Jan. 1.

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### KAVA-KAVA AND ITS BLENNOSTATIC PROPERTIES.

In a recent thesis on this subject, Dr. Dupuy states that the Kava plant contains a resin, which seems to constitute its essential therapeutic principle. The following are his conclusions concerning its medicinal properties:

1. Kava-Kava is a sialagogue.
2. Its action on the stomach is that of a bitter tonic; it im-

proves the appetite without producing either diarrhœa or constipation, and perhaps acts as a prophylactic to catarrhal affections of the upper part of the digestive canal. Its taste is agreeable.

3. It exerts a special stimulating effect on the central nervous system; this stimulation differs essentially from alcoholic intoxication, and is called by Dr. Dupuy, *kavaic stimulation.*

4. It is not a sudorific.

5. It increases very markedly the excretion of water in the urine, and may be classed among the most efficacious of diuretics.

6. It does not produce priapism, as has been stated, but, on the contrary, it prevents it.

7. It is endowed with remarkable blennostatic properties, which manifest themselves very promptly. A chronic urethral discharge is first rendered more profuse, and is then promptly cured.

8. It is very efficacious in cases of acute urethritis or vaginitis, calming the inflammatory condition, controlling the pain during micturition, and suppressing the muco-purulent discharge from the urethro-vesical mucous membrane.

These results are probably due to the combined diuretic and blennostatic actions of the drug.

The anti-catarrhal action seems to be due to the resin, and the diuretic effects to a neutral, crystallizable principle called kavaine, and perhaps also to an alkaloid not yet discovered, whose presence would explain more satifactorily the phenomena excited in the central nervous system, as well as the alterations in the circulation and secretions of the uro-genital apparatus. It possesses over other blennostatic agents, according to Dr. Dupuy, marked advantages, inasmuch as it produces neither diarrhœa nor constipation, is taken with pleasure, increases the appetite, relieves or controls entirely the pain during micturition, changes completely the nature of the discharge, and produces a cure in a very short space of time—ten days.—*La. Tribune Médicale*, April 13th.—*Medical Record*, April 13.

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## CHOLERA--A TRUE NEUROSIS.

By Henry Raymond Rogers, M. D.

In the study of this mysterious disease, physicians in all the ages have been but too apt to allow themselves to be guided by the literal evidences of their senses, and the superficial appearance of things.

The prominent symptoms disclosed by the *primæ viæ* have caused those parts to be regarded as the primary location of the disease. Nothing can be more erroneous in fact or more misleading in practice. It is, therefore, not surprising that every form of treatment employed, until a recent period, has resulted in failure. Success in its future management must,

therefore, depend upon a better appreciation of its intimate nature, and a truer conception of the mode of its operation upon the human system.

The fact that this disease is capable of making its invasion and proceeding to a fatal termination in the space of twenty or thirty minutes, is conclusive evidence against the theory of germs, decompositions, or specific poisons. We are thus led to regard it as a true neurosis.

A careful review of its prominent symptoms abundantly sustains this conclusion.

The distinguishing characteristic in this disease is the *reversal of the action of the mucous surfaces of the stomach and intestines.* The normal action of those surfaces is to take up the fluid contents of those organs, and to convey the same on their way to the systemic circulating current in the blood-vessels. In this disease this normal process (termed endosmosis) gives place to a *reverse* current in which the watery element of the blood passes with greater or less rapidity *into those cavities.* This element constitutes the so-called rice-water evacuations.

These transudations into the stomach and intestinal canal in their profuseness, and painlessness, can by no possibility occur, except that the *nerves*, whose office it is to preside over the parts implicated, fail to perform their functions in a normal manner. No fluid, however attenuated, can make its way through the walls of the blood-vessels while the latter preserve their integrity. Thus the unlocking of the exhalent orifices of the blood-vessels, *permitting* the rapid filtration into the stomach and intestinal canal of the finer elements of the blood, and sometimes of the blood itself, *is a positive evidence of perturbation in the action of the nerves which supply the vessels and membranes through which the infiltration takes place.*

The *cramps* arise from purely nervous causes; the *vomiting* is simply regurgitative; *collapse* may occur from the initial force of the disease, although most frequently due to the diminished volume of the vital current. In rapidly fatal cases the disease expends itself wholly upon the *brain* and *nervous system*, and death occurs before other organic changes *can* have taken place. After death no constant and uniform changes are found in the fluids or tissues of the body which can be regarded as the cause, or the products of the disease.

We may, therefore, consistently ignore all previous theories, and discard all forms of treatment which have been so fruitless in results, and seek some other philosophy which shall better account for the conditions observed, and some other treatment which may prove more successful.

In viewing this disease from a neurological stand-point, the treatment emerges from the pure empiricism which has ever characterized it and becomes thoroughly scientific. It also becomes the perfection of simplicity.

In the treatment of this disease there are two great and lead

ing indications to be observed. First, to change the perturbed condition of the nervous system, and thus shut down the floodgates through which the life ebbs away; and second, to ward off the effects of the exhaustive drain upon the vital current. The first may be accomplished by the hypodermic injections of morphia, and the second by position.

It cannot be too firmly impressed upon the professional mind that the rapid diminution of the volume of the blood, through exudation, is attended by the same results which follow a true, active hemorrhage. From the commencement of this disease this exudation is in progress in a manifest, or a concealed form, and with greater or less rapidity, and *demands the precautions and treatment due to active hemorrhage.*

In the hypodermic form of medication there is certainty of retention of the remedies employed and promptness and efficiency in their action—a very marked contrast with all other forms of treatment which have ever been employed. The commendation of this method by those who have employed it is expressed in the strongest terms. The reports of cases thus treated in Asia, Europe, Australia and in various portions of our own country show almost uniformly favorable results.

The following treatment was employed with successful results in my latest cases—twelve in number—the most of which were grave and typical:

(1.) The hypodermic use of morphia, administered according to the age and condition of the patient, usually in quantity of one-eighth to one-quarter of a grain, and *not* frequently repeated.

(2.) The horizontal position, or with the head lower than the body.

(3.) *For the mouth, nothing but ice*, and that *ad libitum*. When this cannot be obtained, the coldest water may be given, and frequently repeated, in small quantities.

(4.) External heat, frictions, etc.

The following case, as illustrating the above treatment, may be deemed *apropos:* Mr. T. was seized at midnight, and at early morning was found to be on the verge of collapse. In his condition of almost complete exhaustion, with pulse almost imperceptible, the use of morphia was contra-indicated. The first duty, therefore, was to stimulate the brain and heart to action by sending to those organs a current of blood by gravitation. The head was quickly placed many inches lower than the body and extremities, and the other measures resorted to. At the end of one hour the pulse had perceptibly improved, and a quarter of a grain of morphia was hypodermically administered. The inclined position was continued several hours. The result was favorable.

The same treatment applied to cholera-morbus is also prompt and favorable in its results.

A more full explanation of the views of the writer regarding

the origin, dissemination, pathology and treatment of this disease may be found in the "Transactions of the American Medical Association, 1876."—*Hospital Gazette*, Aug. 9.

## HYPODERMIC INJECTIONS OF ETHER IN SCIATICA.

Having seen and read in the LANCET AND CLINIC Professor Comegys' experience with hypodermic injections of ether in sciatica, and also that of a physician of Ottawa, Illinois, with the drug upon himself, we were struck with the seeming happy effect and resolved to put the remedy to the test on the first occasion. Soon after a case of sciatica, which had resisted the ordinary treatment for that disease, such as quinia, hypodermic injections of morphia, iron, iodide of potassium, arsenic, belladonna, wine of colchicum, electricity and counter-irritation, gave us the desired opportunity.

J. McG., married, 30 years of age, farmer, nervous temperament. Present condition emaciated, loss of appetite, loss of sleep, intense pain along the whole tract of the left sciatic nerve, and radiating upward from the exit of the nerve under the pyriformis muscle to the sacral and lumbar regions. Muscles of the leg and hip considerably atrophied; temperature much reduced, so much so that the patient complains of coldness and numbness. The system under the influence of morphia, which has been kept up about a month.

The morphia was immediately withdrawn and injections of ether commenced. First injection of fifteen minims immediately produced warmth and reduced the pain, and patient slept soundly that night for the first in two weeks. Afterwards used five injections on the five days succeeding, one each day, averaging twenty-five minims each. Improvement continued steadily. Patient put on comp. phos. pil. and iron. Appetite immediately returned, sleep returned; use of leg gradually returned, muscular atrophy disappearing and he is now well. No abscess formed, only slight callous forming around the puncture.

DRS. WHITTAKER & MARIS.

West Mansfield, O., Nov. 15, 1879.—*Cincinnati Laneet and Clinic*, Nov. 29.

## BLOOD AS A STIMULANT AND FOOD.

By M. CZARTORYSKI, M. D.

Having read in No. 20 of your valuable periodcal the admirable paper of Dr. C. G. Polk on consumption, I would respectfully call the attention of the profession to a most valuable diet —therapeutic article—in all cases where progressive consumption of bodily tissue, anæmia and nervous prostration are prominent symptoms, or whenever, from any cause, the circulating medium is deficient in quantity or in its constituents. The

article to which I refer is the first drawn blood of healthy chickens, pigeons or other poultry, drawn from the wound direct and well mixed with warm wine or milk punch, or with warm lemonade, milk or coffee, and flavored to taste, and taken immediately by patient before it becomes cold or coagulated. It is a well known fact that the blood of the fowl is rich in red corpuscles, and consequently in the phosphates. It acts with the most surprising promptitude, relieving symptoms of extreme prostration: for instance, in cases of extreme floodings, during and after the parturient act, when the patient is completely exhausted, and when every hope is abandoned, I have seen it quickly restore warmth and circulation, and, at the same time, allay nervous and gastric irritation. The patient in this condition generally, about 8 to 20 minutes after taking the dose, falls into a sound, healthy sleep. On awaking, of course, the dose is repeated—taking the blood of one to three healthy chickens in the twenty-four hours, always in warm drinks, until the patient is restored to health. It is an article easily obtained anywhere, one that can never do any harm, and that acts better and more promptly than the transfusion of blood from vein to vein. I have given it with the most gratifying results to small, puny or scrofulous babies, who were considered almost unfit to live and only a few days old, as well as to the aged, down with the prostration of old age. It always acts most promptly if taken on an empty stomach.

Anyone may satisfy himself of its prompt effect if tired and worn out by fatigue. Within three minutes after taking a dose a pleasant warmth and pleasurable sensation is felt, extending from the stomach over to the solar plexus, gradually pervading the whole system to end of toes and tips of fingers; at the same time the pulse quickens and bodily and mental fatigue disappear. It has always done good service in my hands, and other physicians ought to give it a trial for humanity's sake. The dose of blood of poultry is perfectly in the hands of the attending physician. Good healthy poultry is easily recognized and always attainable. The taste resembles milk and may be flavored to suit. The most delicate woman may take it without leaving her parlor and without repugnance. She needs to see nothing of the killing or of the death struggle of the bird. The killing should always be done in a warm place—best near a warm stove—where no draft of air can strike the streaming blood, which is to be well stirred direct into the warm punch or other liquid ordered by the medical attendant. If the patient can overcome the repugnance, the blood may be sucked directly from the wound. It should be drunk by patient as soon as the blood ceases to flow and before the bird is properly dead.

The blood of poultry is in every respect preferable to that of cattle, sheep, etc., as it is much richer in red corpuscles and phosphates; it is more easily obtained, and the certainty of its

coming from a healthy bird is greater: besides the patient avoids seeing the disgusting and terrible sight so often seen in slaughter-houses, or smelling their offensive odor, or running the dangers consequent to the killing of large, maddened and frightened animals—sights, smells and dangers that many patients would rather die than encounter.

Well do I recollect as a student in the medical department of the University of Breslau, Germany, reading in the old reading hall of the University, the following passage from an old Latin manuscript of the medical works of the celebrated Avicenna, one of the most celebrated physicians of olden times, which I give in a free translation from memory:

"If thou hast an patient that from wound or disease has lost his or her good blood, as even an woman that from childbirth or other cause has flooded almost to death, or an man or woman whose blood, by long-standing disease, has dried up, and thou desirest to give both health and life to thy patient, then call to thine help a pure, strong virgin—an pure maid is an well-beloved, true priestess to the Almighty God and to his angels of execution. Let her well sharpen an bright, keen cutting knife, and with this cut the neck through the big veins on each side of an healthy chicken—an rooster for a man, and pullet or hen for a woman or girl—in the name of the Almighty God as an sacrifice to him. Do not cut windpipe or gullet, as this might cause vomiting. Let her cut it that it will bleed very well, and take and stir with the knife the blood in an glass half filled with good warmed wine, as hot that it just may be drunk. Do not press the windpipe of the chicken, but let it breathe while it bleeds that the blood may squirt well and more red. Let the virgin do this in an warm place, free of draught, as near to thy patient as possible that he may drink it warm from her hand. Let him drink it as soon as the chicken ceases bleeding, in the name and with an prayer to the great Almighty God that gives life and health, and thou startest o'er with wonder how quick, if thou givest it often enough and as thine patient needs, he will be restored to new health and life. For only in the blood is the life, and good, healthy, young blood gives to men healthy blood if taken in proper manner. As the virgin—and only such should do it—draws the blood from the chicken, she brings an welcome sacrifice of the life to Almighty God and his holy angels and spirits. She alone is fit to kill for sacrifice, and every woman that knows how to kill well is his true, well-beloved priestess, and his holy blessing will rest on her and her work forever. As she does her holy work the angel of death leaves your patient and Almighty God grants him a new term of life. Try it and do as I have often and often done, and thou shalt see and do such wonders that all mankind will be surprised at thine cures and praise the Almighty for his greatness, and give thee great name over all countries."

I hope you will find this worthy of a corner in your valuable

journal. I can only repeat with old Avicenna, "try it"—it can do no harm and may save valuable life. I shall always be ready to give any information on the subject that may be desired by anybody.—[*Michigan News*, Dec. 10.

Stockton, San Joaquin County, California.

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## THE SALISBURY PLAN IN CONSUMPTION.

By Ephraim Cutter, M.D.

Prelude.—The position of the writer is that of witness. As such he feels compelled to state the truth. If his testimony proves a testimonial, it is still testimony. All that is asked is a fair hearing and a suspension of judgment until the evidence is all in. Moreover, as the subject is one of the most momentous that can engage the mind of a medical man, it demands that it should be treated according to the rules of good breeding and high professional morals.

In 1867 I became acquainted with Dr. Salisbury. I learned that he had a work ready for the press on the Causes and Treatment of Consumption. He told me of its scope. It seemed like an idle tale. The great fact that influenced me in its favor was that he was the only person I knew of who had showed the synthesis of the disease by feeding hogs, killing them by the food and verifying the disease by autopsies. I have read the records of 110 post-mortem examinations of such hogs. Dr. Salisbury studied the complaint on a much larger number of animals, some 2000. The following points are prominent in the Salisbury plan:

1. Consumption is a constitutional blood disease.

2. It is a condition caused by a yeast plant developing first in the digestive apparatus, then in the blood glands, and finally in the white blood corpuscles and in the serum.

3. The spores of this vegetation constitute the hereditary taint,—the primary cause.

4. They may remain latent for a long time.

5. Tubercles are a more secondary product, having their origin and development in aggregations, groups and masses of yeast spores, with colorless corpuscles of blood and fibrin filaments, when they start and develope inside the capillary vessels; of yeast spores and mucus cells and filaments, when they start and develope in the epithelial follicles and air cells; and of yeast spores and connective tissue cells and filaments, when they originate and develope in connective tissue, outside of the blood vessels.

6. The morphology of the blood in consumption embraces the following:

1. Red corpuscles, pale, thin, softened, sticky, aggregated, not arranged in rouleaux.

2. Enlarged white corpuscles, more or less softened and dis-

tended with entophytal growths. Sometimes they burst and scatter the spores, forming.

3. Spore collects.

4. Spores, white in color.

5. Fibrin filaments, shortened, increased in diameter and more or less soft and rotten—so to speak,—these states varying with the progress of the disease.

6. Massal white corpuscles.

7. This collection of morphological elements is not found in healthy blood.

8. He has taken men and hired them to eat the peculiar food—has produced the morphology in their blood—and as has been stated, pushing the diet in hogs has verified the full culmination of the disease by post-mortems.

9. Dr. Salisbury, by pursuing a plan opposite to the synthesis, has produced the *cure*. This he has done, and I have seen some of the cases alive and well.

10. For ten years past I have carefully followed the Salisbury plan, and my experience is embodied in three corroborative Fasciculi:

I. A new physical sign of the pretubercular state.

II The morphology of consumptive blood.

III. The treatment on the Salisbury plan; 19 cases not arrested, 26 cases temporary arrests, 28 cases arrested so that if it was any other disease they would be called cures.

These fasciculi would have been published but for a promise that I wait till Dr. S. had published his. Now that article I, September (1879), *Virginia Medical Monthly*, has been published, my 73 cases are in the hands of the editor of the *American Journal of Medical Sciences* for promulgation. Both Dr. Salisbury's work and mine will be given to the world as soon as he sees fit to permit.

*As a witness*, I say that I have used every means within my power to make known the plan privately. Among those who have perused one or all fasculi are Drs. N. S. Davis, A. Fisher, J. N. Hyde, F. H. Davis et al., of Chicago; Prof. Vandeveer and Dr. W. H. Bailey, Albany, N. Y.; Dr. L. B. Edwards, Dr. M. L. James, Richmond; Judge Dobbin, Baltimore; Dr. H. I. Bowditch, Boston; Dr. John Clough, Woburn; Rev. Joseph Cook, Boston; Prof. Paulus F. Reinsch, Erlangen; Dr. George B. Harriman, Boston; Prof. L. Whiting Mason, Boston; Mr. W. E. Baker, Boston; Benjamin Cutter, Stuttgart, Germany; Dr. R. U. Piper, Chicago; Dr. M. G. Wheeler, Chelsea.

Besides, I have photographed the morphology of consumptive blood and explained it briefly in over sixty lectures, illustrated by the sciopticon with microphotographs, taken with powers ranging from one-fifth to one seventy-fifth. This was done to show what I believe to be the truth and valuable to mankind. Among the societies are the following: Maryland

and Baltimore Dental Association; Baltimore Medical and Surgical Society; American Medical Association, Buffalo; Hampden County Medical Society, Massachusetts; Middlesex Eastern District Medical Society, Massachusetts; New York Academy of Sciences; Chicago Medical Society; Chicago Western Medical Association; Academy of Medicine, Richmond, Va.; Gynecological Society, Boston. Individuals: Dr. James R. Nichols, Haverhill, Mass.; Prof. Lewis A. Sayre, New York; George M. Beard, New York; Dr. E. Engals, Chicago; Judge Dobbin, Baltimore; Prof. O. W. Holmes, Prof. R. H. Fitz, Boston; Prof. Moses C. White, New Haven; Rev. Daniel March, D.D., Woburn; Dr. L. Elsburg, New York; Dr. S. Lawton, Springfield, Mass, etc.

*Note.*—These societies and individuals simply saw what I showed and heard what I had to say. I thus know of what I am affirming. I regard my work as that of seed sowing. I have never asked to be endorsed. I am willing to wait for the seed to take root.

I further testify that I have for the past ten years implored Dr. Salisbury to publish this work, but, as he says, he has been deterred "by a fear of *not* pursuing a course that includes the most right and the least wrong." Now that he has at least yielded, and published his treatment, I intend to use every legitimate and honorable means to promulgate his views, because

(*a*) I believe them to be true from my own experience.

(*b*) Because, "if the experience of Dr. Salisbury and myself should be realized by all physicians in the United States, at least 13,000 lives annually could be saved by detecting the pretubercular state alone."

(*c*) I believe that Dr. Salisbury has waited long enough. Twenty years of a life is, in this age, a *century* under the old time usages.

(*d*) Because Dr. Salisbury and myself (as an humble disciple) are both ready and willing to let this be tested by any who may be willing to come and see.

(*e*) Finally, I do as I have done, that it cannot be said in future time that I have not done all I could to put this, in my opinion, grandest contribution to the medical knowledge of this age, in the hands of the profession. If I don't succeed in so doing, I shall have the consciousness of having acted up to my intense convictions of duty.

N. B.—See my paper in *Southern Clinic*, 1879, on the Morphology of Diseased Blood, for more facts about Dr. Salisbury. His published works number over 70.—*Michigan Medical News*, November 25. E. C.

94 Tremont street, Boston, November, 1879.

### TREATMENT OF VESICAL ATONY BY ERGOTINE INJECTIONS.

In three cases of vesical atony observed in old patients, Professor Langenbeck has obtained the best results from hypodemic injections of ergotine. Immediately after the injection the contractile power of the bladder was augmented and the patients micturated more abundantly. At the end of some days the bladder emptied itself almost entirely. In an old man, sixty-two years of age, who three or four times per day expelled about thirty grammes of urine when his bladder contained more than half a litre, the very same day on which a hypodermic of twelve centigrammes of Bonjean's ergotine was employed, micturition was accomplished most satisfactorily. The prostate soon diminished in volume and after four injections the cure was complete.—*L' Union Médicale.—Canadian Journal Medical Science.*

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### WEIGHT OF CALIFORNIAN AND AUSTRALIAN BABIES.

Is it a general fact that children are larger at birth in newly settled countries than in older countries? We have no doubt of it in regard to California. It was long ago observed that the new States in the Mississippi valley produced a larger race of men than the old Atlantic States. New populations emigrating from crowded localities, acquire, under favorable physical conditions, a stimulus to development, which shows itself both in an enlarged ratio of increase, and in an invigoration of the stock. Twenty and thirty years ago the average weight of California babies was over eight pounds, and we are not certain that it has diminished. Infants weighing ten and eleven pounds have fallen into the hands of every accoucheur of moderate practice. Twelve and thirteen pounds is not a very uncommon weight, and a case of eighteen pounds is on record, well authenticated. It would seem that Australia is not behind in this respect. The *Australian Medical Journal* for September, 1879, contains a list of 182 births which occurred in the Melbourne Hospital in the first four months of the year, the maximum weight being 12½ pounds, and the average about 8 pounds. As the births were in a hospital, and one-half were illegitimate, it may be presumed that the circumstances were not the most favorable to physical development. There were 5 couplets, 2 breech presentations, one of the foot, one of the arm and two of the face—*Pacific Medical and Surgical Journal*, Nov., 1879.

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### PILOCARPINE IN THE PRURITUS OF PREGNANCY.

"A country doctor" writes to the *British Medical Journal* that a single dose of one-third of a grain of nitrate of pilocarpine, by the mouth, served to bring on profuse sweating and salivation with complete relief of intolerable and persistent itching, which had lasted throughout pregnancy and recurred after delivery. —*Medical Times.*

# EDITORIAL.

## THE LOUISIANA STATE MEDICAL SOCIETY.

The annual meeting of this body, which will take place on the last Wednesday in March, is so near at hand, that a few remarks *apropos* of the occasion may not be inappropriate. Nearly all the States of the Union, including the most recently settled, have similar organizations, and their utility is no longer a matter of question, outside our own borders. In Louisiana, however, as regards the great majority of the medical profession, the matter seems either to be decided in the negative or to be still unsettled, from the evidence afforded. The number of local medical societies is so small, that it was found impracticable to organize the State Society as a representative body; while its individual membership throughout the State is only 106 altogether, out of 876 practitioners whose names have been reported.

Again, of this number several disclaim membership, when asked for their annual dues, while no less than 40 have failed to make any response. The consequence of the delinquency is, that the society still owes more than $180 for printing the last volume of its Transactions and has only about $30 in the treasury.

When this volume was printed, a circular was sent to all the regular practitioners in the State, so far as known, inviting and urging them to join and sustain the organization, but not more than half-a-dozen additional medical men have responded. These plain facts are now stated, so that our readers may be warned in season of the danger of dissolution which seriously threatens our State Medical Society.

Let it not be forgotten that one of the principal objects of the Society is the advancement of State Medicine. Although its interests concern the public at large, and our profession only as members of the general public, still medical men must take the lead and most of the labor in advocating its claims, and on them rests the responsibility. It is our business

then, to look after the improvement of medical education and of public hygiene; but how can this be done to any good effect without organization?

Again, the protection of the public from the dangers of quackery is properly regarded as a matter of particular interest to physicians. We consider it a great mistake to suppose that this evil is to be met with by prohibitory laws. Quackery may be outlawed, like gambling and prostitution; and, while the two latter may be driven into secret places and rendered disreputable, the first will flourish openly, for respectable people will continue to patronize it. For its exposure and discouragement the British plan is the most effectual, and the only proper one for English-speaking people. It consists in separating properly qualified medical men into a distinct class, so that the public may be able to distinguish between them and pretenders; then the public are left free to choose between them. This plan is carried out by the organization of local branches of one grand body, styled the British Medical Association, and the publication of a register, which contains the names of all qualified practitioners, with a description of their credentials, and open to public inspection.

This, we maintain, is the proper course to pursue in Louisiana, and is substantially what is contemplated in the regulations of our State Medical Society. It is neither necessary nor proper for us to apply to the Legislature for any class legislation; and there is no likelihood that it would be granted, if asked. The plain truth is, if the medical profession cannot protect its interests and command the respect of the public without special legislation, it would fail with all the aid it might ask; and, in any event, it will deserve just what it may experience at the hands of the public. It is no part of free government either to foster or oppress religion and science. Friendly, antagonistic, or indifferent to each other, the State should keep its hands off, and let them work out their own progress, so long as they do not disturb the public peace.

These remarks are not intended either as an appeal or a reproach. They are an expression of our opinion, and a dis-

charge of what we regard a duty as medical journalists. If State Medicine should languish and medical men continue to be insignificant members of society in Louisiana, we wish it understood that we have not been derelict by failure to point out the responsibility and the remedy.

### MERITED PROMOTION.

The medical officers of the United States Army have cause to congratulate themselves that merit is appreciated and heroism acknowledged. Passed-assistant-surgeon John W. Ross has been promoted eight numbers in his present grade for extraordinary heroism, as provided for in section 1506 of the Revised Statutes.

This promotion is for services rendered by Dr. Ross at the imminent risk of his life at Holly Springs and Memphis in 1878, during the epidemic of yellow fever.

## Reviews and Book Notices.

*A Treatise on the Theory and Practice of Medicine.* By John Syer Bristowe, M.D., London, Fellow and formerly Censor, Roy. Col. Phys.; Sen. Phys. to and joint Lecturer on Medicine, St. Thomas Hospital; Lecturer on General Pathology and on Phys., St. Thomas Hospital, etc. Second American edition revised by the author. With notes and additions by James H. Hutchinson, M.D., etc. 8vo., pp. 1081. Philadelphia: Henry C. Lea. 1879. [Sold by Armand Hawkins, Medical Bookseller, 196½ Canal street, New Orleans].

This work is already so well and so favorably known, that no extended notice of its contents or criticism of its merits is necessary. The author having determined to limit his book to a single volume, and to include in its scope several subjects usually relegated to treatises on surgery or on special branches of medicine, is under the necessity of refraining entirely from allusion to clinical cases and of confining himself to a very concise didactic view of each subject.

Having devoted rather more than 90 pages to general pathology, the author proceeds in part II to consider special diseases in classified groups, as follows: (1) specific febrile diseases; (2) diseases of the skin; (3) diseases of the respiratory organs; (4) diseases of the vascular organs; (5) diseases of the digestive organs; (6) diseases of the genito-urinary organs; (7) diseases of the organs of locomotion; (8) diseases of the nervous system.

Those not already familiar with Dr. Bristowe's views on certain points where medical opinion is divided, may be interested to learn that he does not adopt the late German notions on the nature of tubercle and its connection with pulmonary consumption. The caseous product he regards as an advanced stage of tubercle, commencing with the miliary form, which is universally admitted as tuberculous in nature. Some of his reasons for rejecting the identity of the cheesy infiltration with the epithelial deposits of catarrhal or lobular pneumonia are very forcible; as for instance, that these caseous masses of phthisis do not affect specially the favorite seats of either lobar or lobular pneumonia, but rather the summit of the lungs, where miliary tubercles are wont to appear; also that caseous deposits are constantly associated with tuberculous formations in other regions, particularly of the miliary form.

As might be supposed, he recognizes no essential pathological distinction between the two forms of pneumonia, distinguished in the German classification as croupous and catarrhal, but which he prefers to call lobar and lobular, or diffused and patchy. The former indeed he regards as idiopatic in origin, and the latter secondary to affections of the air-passages; but he avers that each may pass into the other.

On the subject of dengue he is much at variance, on several important points, with the late Prof. Dickson. Dr. Bristowe traces its first appearance to the East Indies in 1824, while Dr. Dickson finds an identity between dengue and a disease which prevailed at Philadelphia in 1780, called *break-bone fever* by Dr. Rush. Our author also states that this disease does not appear to have extended to temperate regions; which is certainly incorrect, as it has appeared in many parts of this

country at different times during the memory of people still living.

Syphilis, usually omitted from works on medicine proper, is briefly treated as a specific affection, in some respects resembling the exanthemata. The theory of its American origin is rejected, and he believes that it has prevailed from remote antiquity in the Old World. Local venereal sores, not affecting the general system, are not mentioned in this work, and consequently are not regarded by the author as syphilitic in nature.

The plan and scope of this work adapt it specially to the needs of students rather than practitioners of medicine, and such a purpose it well fulfills. The views of the author are expressed with precision and sufficient positiveness to impress the student with the weight of his authority; and, should the medical professor differ on any subject from his doctrines, he will need to find strong arguments to carry his class to the opposite conclusion. S. S. H.

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*A Text Book of Physiology.* By M. Foster, M. A., M. D., F. R. S., Prælector in Physiology and Fellow of Trinity College, Cambridge. With illustrations. Third edition, revised, 8vo., pp. 720. London: Macmillan & Co. 1879.

This edition, following the second at an interval of less than two years, which in turn rapidly succeeded the first, indicates the popularity of the work among the British medical public, without allowing much room for improvement in successive issues.

Although Dr. Foster is a medical teacher, he displays in his book none of the dogmatism which necessarily attaches to the professor's chair, and is quite apt to appear in the professor's written efforts. References to authorities are found at the foot of most pages, and the author is quite cautious throughout in the expression of opinions not established by general consent. As no claims to original research are set up, the book can only be regarded as an exponent of what is commonly known; and in this respect it is just to concede that the work is well done.

In an examination of certain subjects as treated in this book,

we have found some passages which we regard suitable for special remark. For instance, respecting the first sound of the heart, he characteristically avoids expressing an opinion of its causation, while finding objections to both muscular action and the influence of the valves on the blood-current. Any one who will compare the sound given forth through the stethoscope by the rythmical contraction of the biceps or the bundle of flexors in the forearm with the first sound of the heart, cannot fail, we think, to observe the substantial identity in mode of production. An argument is made in favor of valvular agency in the normal first sound, because the diseased valves so obscure and change the sound. In case of aneurism we find very decided murmurs produced by interference with the blood-flow, while no sound whatever can be found over the healthy arteries, and there is equal reason for supposing that healthy valves present no resistance to forward movement which would give rise to any sound.

In regard to the sugar-producing function of the liver, Dr. Foster leans to the view of Pavy in preference to that of Bernard; but supposes that the glycogen elaborated by that organ is retained there as a reserve, which is transformed to hepatic sugar as the needs of the system make requisition for this substance in the intervals between ingestion of amylaceous or saccharine food. He does not attempt to account for the pathology of diabetes mellitus, being content with remarking that "Sugar in the urine means an excess of sugar in the blood." The view of Tscherinoff, quoted by Niemeyer, is quite in harmony with the glycogen-function of the liver, as proposed by Dr. Foster. Tscherinoff's supposition is, that the liver transforms the sugar which arrives in its circulating blood into glycogen; but that, when this function fails, the sugar passes through the liver unchanged, to be filtered out through the kidneys.

With regard to urea, he supposes that it is contained in the blood before it reaches the kidneys, its antecedents being "partly the kreatin formed in muscle and elsewhere, partly the leucin and other like bodies formed in the alimentary canal as well as in various tissues." The transformation of these sub-

stances into urea he conjectures may take place in the liver, and possibly in the spleen, but of this he is not positive.

Considerable space is devoted to the discussion of localization of the functions of the cerebral convolutions, with copious references to late experiments, particularly the recent ones of Ferrier by means of the galvanic current; but the author is not sanguine of the discovery of positive results thus far.

An appendix contains about 40 pages on the Chemical Basis of the Animal Body. The chemistry of the various proximate principles is briefly described and is convenient for reference by the reader.

The illustrations consist of 72 wood-cuts, a large portion of which represent various instruments of precision contrived for the study of the functions of different organs. A table of contents and an index facilitate reference to particular subjects, but the latter has several inaccuracies not noted in the list of errata.

This edition is furnished at the moderate price of $3.50 in muslin, or $4.50 in sheep binding. The publishers announce the early appearance of a cheap "Students' edition," which will be acceptable as a companion to the lectures of the class-room. S. S. H.

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*Pocket Therapeutics and Dose Book: with Classification and Explanation of the Actions of Medicines; Min. and Max. Doses in Troy Weights, with their equivalents in the Metric Weights; Index and Definition of Diseases, with Appropriate Remedies; Genitive Endings of all Medicines and Preparations given in italics; Index of Common and Pharmaceutical Names; Classification of Symptoms; Poisons and their Antidotes; Useful Hints to the Prescriber.* By Morse Stewart, Jr., B. A., M. D., 32mo., pp. 263. Second edition, revised and enlarged. Detroit, Mich.: Geo. D. Stewart. 1878.

It might be supposed that the above title indicates all the subjects treated in this little book, by one who has not examined it; but he would still find other valuable information very conveniently arranged. The book was intended by the author as a *reminder* in case of emergencies. For students of medicine it is altogether unsuitable, and practitioners should always refer to larger works when they have time and opportu-

nity. But occasions will arise when such a little friend will prove extremely welcome, and this is really the best of its kind that we have met. S. S. H.

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*Outlines of the Practice of Medicine, with special reference to the Prognosis and Treatment of Disease. With Appropriate Formulæ and Illustrations.* By Samuel Fenwick, M. D., Lecturer on Principles and Practice of Medicine at London Hospital, etc. 12mo., pp. 387. Philadelphia: Lindsay & Blakiston. 1880. [Sold by Armand Hawkins, 196½ Canal street, New Orleans.]

This little book is based on the notes of a few closing lectures to his medical class by the author, and designed as a practical review of the course with special reference to treatment of diseases, preparatory to the approaching examination. This fact suggests its appropriate use by students, as an adjuvant to the process of "cramming" for examination. It is quite general for teachers to condemn "cramming" for examinations, as well as the use of translations by students of the Latin and Greek classics, but it is always in vain contending with human nature and the law of demand and supply.

It is safe to predict that "ponies" will not disappear from our colleges, nor books like this from our medical schools, during our time at least. S. S. H.

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*Infant Feeding and its Influence on Life; or, the Causes and Prevention of Infant Mortality.* By C. H. Routh, M.D., M.R.C.P.L., Fellow of University College, London, Senior Physician to the Samaritan Hospital for Women and Children, etc., etc. Third edition. William Wood & Co., New York. Armand Hawkins, medical book store, 196½ Canal street, New Orleans, La.

This work embraces within its pages one of the most interesting and attractive studies in the range of medicine. The preservation of infant life must be the constant care of the physician and philanthropist who recognize the fact that the large ratio of deaths come under the classification preventable. The preface to the third edition of this work contains the following: "In England alone, since the year 1847, over 341,000 babies have died from developmental diseases of children, and nearly 2500 from want of breast milk. Ever

since my last edition in 1863, nearly 146,000 children have died from the former diseases and 12,000 from the latter cause, and unfortunately these numbers are on the increase."

The work before us is conveniently arranged into four parts. The first part is a consideration of the general and special causes of infantile mortality. Part II relates especially to lactation, nature of milk and selection of wet nurses. Part III general deductions in reference to alimentation made from the composition of milk and its substitutes. Part IV is a consideration of diseases of the digestive system and their prevention and treatment. Appendix E containing general and special rules for the nourishment of children is one of the best we have seen and is highly recommended.

The work is one of the series known as "Woods' Library of Standard Medical Authors," and is highly creditable to the energetic publishers.

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*Transactions of the American Medical Association. Instituted* 1847, Vol. XXX, 8 vo., pp. 1028. Philadelphia. 1879.

The present, being one of the largest volumes issued by the Association, contains much matter of the highest interest and value, and indicates that its vitality is not entering on a decline with advancing age.

The address of the President, Dr. Theophilus Parvin, is upon *Teleology*, in which he takes the ground that the old doctrine of creative design in the universe is not superseded by the modern doctrine of evolution, but may be made to harmonize with it. Abundant quotations from philosophers and men of science are adduced to support his position, and his paper is interesting and valuable, though probably not convincing to pronounced evolutionists.

The address in *Practice of Medicine, Materia Medica and Physiology* was pronounced by Dr. Thos. F. Rochester, of Buffalo. Allusion is made to the great yellow fever epidemic of 1878, in connection with which he takes occasion to recommend the foundation of a National Health Bureau. The propagation of typhoid fever, he believes, has an intimate connection with water supply—a view now generally adopted by pathologists

and sanitarians. Speaking of sanitaria for consumptive invalids, he quotes from certain writers, to the effect that such resorts lose their reputation by the influx of excessive numbers, which tends to over-crowding and neglect of out-door exercise. The communicability of tuberculosis from one individual to another is supported on the authority of Dr. Bancroft, of Colorado, who asserts that the natives of certain resorts have become consumptive since their localities have become the residence of persons thus affected.

In a *Report on the Prevention of Bowel Affections*, Dr. N. S. Davis takes the ground, that one of the chief features in the production of bowel derangements, especially in young children, is a continuous high temperature. The evidence is the greater prevalence of such complaints on the Atlantic coast and in the North-western States than along the Pacific and Gulf coasts. In this view we concur, with the reservation, that daily range of temperature, between day and night, is also an important consideration.

Dr. Charles Denison, of Denver, Col., contributes a very candid article on *Experience of Consumptives in Colorado, and some of the Aero-hygienics of Elevation above the Sea; with Conclusions.*

The address in Obstetrics and Diseases of Women and Children was made by Dr. E. S. Lewis, of New Orleans, and gives the progress made in this branch during the current year.

Dr. Ephraim Cutter, of Boston, makes a *Report on Electrolysis of Uterine Fibroids*, favorable to the claims of the operation. The same writer contributes a paper in support of his intra-uterine stem pessary, illustrated by clinical cases.

The *Address in State Medicine and Hygiene* was made by Dr. John S. Billings, U. S. A. He strongly advocates the utility of the registration not only of deaths but of diseases, as furnishing a more accurate index of the state of the public health than simple mortuary statistics. In this he is undoubtedly right, but we fear that his scheme will never become practicable in our day.

Dr. H. O. Johnson, of Chicago, gives a favorable account of *The Regulation of Medical Practice by State Boards of Health, as exemplified by the Execution of the Law in Illinois.*

A very instructive paper follows, on *State Medicine and State Medical Societies*, by Dr. Stanford E. Chaillé, of New Orleans.

Dr. Horatio R. Storer, of Newport, R. I., furnishes a paper on *Protective Sanitation*, exemplified by the voluntary association lately formed for this purpose at Newport. This differs from the sanitary associations inaugurated at Memphis and New Orleans in 1879, in respect of being devoted to domestic rather than public sanitation.

On the subject of operations for cataract there are three articles, contributed severally by Drs. B. A. Pope, of New Orleans, A. W. Calhoun, of Atlanta, and H. Knapp, of New York; the last of them also makes the *Report on the Progress of Ophthalmology and Otology.*

In the *Address in Surgery and Anatomy*, Dr. Moses Gunn, of Chicago, treats chiefly of pus, and endeavors to relieve it partially of the weight of obloquy heaped on it by most surgeons of our day.

Dr. J. R. Weist, of Richmond, Ind., discusses *Treatment of Hemorrhoids by Injection of Carbolic Acid*, for which he makes a rather favorable showing.

Dr. Henry O. Marcy, of Cambridge, Mass., gives his own and other testimony in favor of *Aspiration of the Knee Joint.*

Dr. H. F. Campbell, of Augusta, Ga., contributes a long and elaborate paper on *Urinary Calculus.* In part I. he gives a synopsis of a large number of cases operated on by the bilateral method, his favorite plan. The general indictment against this method, on the ground of its destroying the virility of the subject, he disposes of by instances of the retention of this power after the operation. In part II. he discusses its etiology and pathology, and his conclusions we regard of sufficient interest to quote at large:

"Having thus carefully presented the anatomical and physiological relations of this portion of our subject, we may summarize a few facts, some of which appear to exclude the hard water theory of lithogenesis, while they strongly corroborate that of the neuro-dynamic origin of calculus.

*First.* The largest proportion of subjects being infants at nursery periods of life, the calcareous solutions are not taken by them to furnish the lime for calculous concretions, while the adult, who rarely originates stone, drinks freely of them.

*Secondly.* As heretofore shown, uric acid forming the nucleus of nearly all calculi, so far from being favored by solutions of lime, would rather be dissolved by them.

*Thirdly.* The food of the nursing infant being largely albuminous—as in the case of the sucking herbivora, uric acid is found to predominate in the blood and urine. This uric acid, which in the adult exists in less proportion and is probably dissolved in hard-water districts, in the infant forms a nucleus without the chance of solution in the absence of alkaline drinks.

*Fourthly.* The albuminous food of infancy furnishing abundant material out of which uric acid may be produced, the one overshadowing influence instrumental in its production and in the formation of idiogenic nuclei is the functional disturbance of the liver—*hepatic paresis*—which during this period is produced by reflected dental irritation as heretofore demonstrated. As glycogenesis is artificially produced in the experimental demonstration of Claude Bernard by irritating the floor of the fourth ventricle, so lithogenesis in the nursing infant is morbidly produced by reflected dental irritation of the fifth pair implanted in the same nerve-centre. Imperfect disintegration and imperfect oxidation of albuminous material in the liver is the result of the hepatic paresis thus superinduced. Hence, idiogenic nuclei and, consequently, calculi, are abundant at this period.

*Fifthly.* After nuclear agglomeration *has taken place*, another excitor of reflex irritation, and new avenues of transmission, are established. The idiogenic nucleus and the xenegenic, from this time, have a common history; both excite, in a like degree and in the same manner, the elimination from the blood and precipitation of the calcareous elements in the further development and growth of the stone. Calcareous solutions, as drinking water, probably, now add considerably to the rapidity of accretion.

*Sixthly.* Although we regard dental irritation, as heretofore described, to be the chief originator of the uric acid nucleus and therefore of the vast majority of autogenic calculi, we cannot exclude the recognition of other influences as giving rise to calculi both in the infant and adult; as all xenogenic nuclei are known to originate calculi and to become covered with calcareous—not often uric acid—strata, by a process of reflex irritation, beginning in the bladder. Irritation of the uretha, of the prostate gland, of the prepuce, all, as we have shown, originate nuclei and promote precipitation; under the influence of spinal injury we have seen immense productions of calcareous deposits continued in one case—O'Bannon's—for over thirty-nine years.

*Seventhly.* The influence of living in malarial districts may well and rationally be accepted as acting most potently in the

neuro-dynamic origination of calculus. Whether in hard-water districts or free-stone regions it is known that the nervous system sustains serious impairment of its controlling functions over the secretory organs through malarial blood-intoxication. No organ suffers greater functional derangement than the liver, and on rational grounds we may predicate the abundant production of uric acid and the nuclear agglomeration of idiogenic nuclei. The "critical discharge" of every paroxysm is but the throwing down of earthy phosphates, the *ashes* of the burnt up tissues of the body. Thus, under nervous aberration in malarial fever too, we have the production of the uric acid nucleus and also the limy phosphates for super-stratification."

More than 130 pages are occupied by Dr. L. A. Sayre, of New York, in support of his treatment of Pott's disease of the spine by suspension from the head and the application of the plaster-of-paris jacket. Notes are given of 109 cases, many of which are illustrated by wood-cuts of the individuals, to illustrate the degree of the deformity. Dr. Sayre may fairly claim that his plan of treatment is established on a firm basis.

Dr. J. M. Toner furnishes the *Report on American Medical Necrology*, which is especially valuable in containing probably the most complete list extant of the medical men who fell during the great epidemic of 1878, including many brief biographical sketches.

The volume closes with a prize essay extending through 80 pages, entitled *A Consideration of Certain Forms of Primary and (Local) Secondary Degeneration of the Lateral Columns of the Spinal Cord, with especial reference to an infantile rare form:* By Allan McLane Hamilton, M. D. If the author had brought his essay within the compass of twenty pages, using more system in the arrangement of his matter and more perspicuity of expression, it would be much easier and more profitable reading than we find it. S. S. H.

## Books and Pamphlets Received.

*A Treatise on the Science and Practice of Midwifery.* By W. S. Playfair, M.D., F.R.C.P., Physician-Accoucheur to H. I. and R. H., the Duchess of Edinburgh. Professor of Obstetrics, etc.

*The Theory and Practice of Medicine.* By Frederick T. Roberts, M.D., B.Sc., F.R.C.P., Professor of Materia Medica and Therapeutics at University College, etc., etc.

*A Manual of the Practice of Surgery.* By W. Fairlie Clarke, M.A. and M.B. (Oxon), F.R.C.S., Assistant-Surgeon to Charing Cross Hospital.

*Lectures on Practical Surgery.* By H. H. Toland, M.D., Professor of the Principles and Practice of Surgery and Clinical Surgery in the Medical Department of the University of California.

*Pocket Therapeutics and Dose-Book.* By Morse Stewart, Jr., B.A., M.D., Detroit, Mich.

*Twenty-fourth Annual Report of the Trustees of the State Lunatic Hospital at Northampton for the year ending September* 30, 1879.

*Vick's Floral Guide.* Rochester, N. Y.

*Notes of Work by Students of Practical Chemistry in the Laboratory of the University of Virginia.* Communicated by J. W. Mallet, M.D., Professor of General and Applied Chemistry in the University.

*Cholera of* 1873. By W. R. Sevier, M.D., Jonesboro, Tennessee.

*The Second Annual Report of the Presbyterian Eye and Ear Charity Hospital, Baltimore, Md.*

*The Sanitation of Small Cities.—Soil, Drainage, Sewerage and the Disposal of Sewage.* By David Prince, M.D. Reprint from the Transactions of the Illinois State Medical Society for 1879.

*Transactions of the Medical Association of the State of Missouri,* 1879.

*The Treatment of Fracture of the Lower End of the Radius.* By R. J. Levis, M.D., Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital. Reprint from the

Transactions of the Medical Society of the State of Pennsylvania.

*Tobacco Poisoning and its Effects Upon the Eye Sight.* By A. W. Calhoun, M.D., Atlanta, Ga., Professor of Eye and Ear and Throat Diseases in the Atlanta Medical College. Reprint from Transactions Medical Association of Georgia.

*The Extirpation of the Ovaries for some of the Disorders of Menstrual Life.* By William Goodell, A.M., M.D. Extracted from the Transactions of the Medical Society of the State of Pennsylvania.

*Annual Address of the President of the Kentucky Medical Society, delivered at Danville, Ky., May* 13, 1879. By Dr. C. H. Todd, of Owensboro, Ky.

*Physiological Antagonism.—The Therapeutic Law of Cure.* By Electus B. Ward, M.D., Assistant to the Chair of Practice of Medicine in the Long Island College Hospital, Brooklyn, New York.

*Detroit Medical College, Catalogue of Changes in its Method of Teaching, etc., etc.*

*The Therapeutic Society of New York.* Reprint from the *New York Medical Journal,* June and July, 1879.

*Analysis of Air.* By Wm. Van Slooten, C.E. Reprint from the Journal of the American Chemical Society, Vol. 1.

*Buffalo Lithia Water of Mecklenburg County, Va.*

*An Examination of the Usual Signs of Dislocation of the Hip. Also an Inquiry into the Proper Mode of Procedure When Dislocation of the Hip is Accompanied with Fracture of the Femur.* By Oscar H. Allis, M.D., Surgeon to the Presbyterian Hospital.

*Transactions of the Massachusetts Medico-Legal Society, Vol.* 1, *Number* 2, 1879.

## Meteorological Summary—December, 1879.
## Station—New Orleans.

| Date. | Daily Mean Barometer | Daily Mean Temperature. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. | General Items. |
|---|---|---|---|---|---|---|
| 1 | 30.26 | 54.7 | 73.0 | East. | .. | Mean Barometer, 30.156. |
| 2 | 30.12 | 61 2 | 90.3 | East. | .... | Highest Barometer, 30.530, on 26th. |
| 3 | 30.10 | 64.2 | 83.3 | S. W. | .. | Lowest Barometer, 29.790, on 5th. |
| 4 | 30.07 | 64.0 | 88.7 | S. E. | .... | Monthly Range of Barometer, .740 |
| 5 | 29.84 | 65.0 | 82.0 | South | .61 | Highest Temperature, 78° on 24th. |
| 6 | 29.94 | 59.0 | 62.7 | N. W. | .... | Lowest Temperature, 32° on 26th. |
| 7 | 29.98 | 62.2 | 63.7 | South | .... | Monthly Range of Temperature, 46°. |
| 8 | 30.08 | 66.7 | 84.3 | S. E. | .23 | Greatest Daily Range of Temperature, |
| 9 | 30.04 | 68.0 | 92.7 | South | .27 | 34° on 25th. |
| 10 | 29.94 | 71.7 | 84.7 | South | .04 | Least Daily Range of Temp., 7° on 9th |
| 11 | 30.10 | 51.0 | 66.7 | North | .11 | Mean of Maximum Temperatures, 66.7° |
| 12 | 30.23 | 47.5 | 37.3 | N. E. | .... | Mean of Minimum Temperatures, 52.5° |
| 13 | 30.11 | 48.0 | 78.7 | N. E. | 1.32 | Mean Daily Range of Temp., 14.2°. |
| 14 | 30.02 | 54.2 | 88.7 | West | .21 | Prevailing Direction of Wind, S. E. |
| 15 | 30.25 | 51.2 | 69.7 | North | .. | Total Movement of Wind, 5,386 miles. |
| 16 | 30.22 | 55.2 | 63.0 | S. E. | .. | Highest Velocity of Wind and Direc- |
| 17 | 30.23 | 59.0 | 69.7 | S. E. | ... | tion, 22 miles, North on 25th. |
| 18 | 30.27 | 61.2 | 71.0 | S. E. | .... | Number of Clear Days, 6. |
| 19 | 30.25 | 61.5 | 76.7 | East. | ... | Number of Fair Days, 9 |
| 20 | 30.20 | 65.7 | 80.7 | South | ... | Number of Cloudy days on which no |
| 21 | 30.12 | 68.5 | 86.7 | South | .... | Rain fell, 6. |
| 22 | 30.08 | 70.5 | 85.3 | South | .02 | Number of Cloudy Days on which |
| 23 | 30.10 | 71.2 | 82.7 | S. E. | .. | Rain fell, 8. Total number of days |
| 24 | 30 17 | 74.0 | 83.0 | South | .... | on which rain fell, 10. |
| 25 | 30.37 | 48.2 | 71.0 | N, W. | .09 | |
| 26 | 30.44 | 39.5 | 42.7 | North | .... | |
| 27 | 30.30 | 46.7 | 63 3 | N. E. | .. | |
| 28 | 30.20 | 55.5 | 78.7 | S. E. | .... | |
| 29 | 30.21 | 61.0 | 80.0 | S. E. | .... | |
| 30 | 30.24 | 62.7 | 92.7 | S. E. | ... | |
| 31 | 30.33 | 64.2 | 90.7 | East. | .... | |
| Sums | | | | | | |
| Means | 30.156 | 59.8 | 76.3 | S. E. | 2.90 | |

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871..... | | 1876 ..... | 48.1° |
| 1872..... | | 1877..... | 55.5° |
| 1873 ..... | 56.6° | 1878..... | 51.2° |
| 1874..... | 58.8° | 1879..... | 59.8° |
| 1875..... | 61.5° | 1880..... | |

COMPARATIVE PRECIPITATION

| | | | |
|---|---|---|---|
| 1871.....inches. | | 1876.. 9.57 | inches |
| 1872..... | " | 1877 . 4.96 | |
| 1873...1.79 | " | 1878.. 8.69 | " |
| 1874..3.27 | " | 1879.. 2.90 | " |
| 1875..5.15 | " | 1880..... | " |

## Mortality in New Orleans from December 21st, 1879, to January 18th, 1879, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| December 28 | 0 | 3 | 10 | 0 | 9 | 82 |
| January 4 | 0 | 2 | 17 | 0 | 7 | 110 |
| January 11 | 0 | 4 | 17 | 0 | 11 | 90 |
| January 18 | 0 | 1 | 10 | 0 | 9 | 97 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total.... | 0 | 10 | 54 | 0 | 36 | 379 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

MARCH, 1880.

## ORIGINAL COMMUNICATIONS.

### Toxemic Diseases and Their Treatment.

By W. R. SEVIER, M. D., Jonesboro', Tenn.

I deferentially submit to my professional brethren, the following affirmative propositions:

In doing so I beg to express my entire confidence in their truth; and the hope, better defined perhaps as an assured belief, that, when practically recognized, we shall occupy a more advantageous stand-point—shall witness more uniform and satisfactory results from the treatment of that class of diseases to which they refer—shall enjoy a more general and abundant success in our efforts to relieve human suffering.

1st. Except in the suppressed condition of certain functions, there exists no resemblance between the symptoms of cholera and those of yellow fever; yet the latter is not less distinctly a form of toxemia, or blood poisoning, than is the former.

2d. If these diseases, so dissimilar in many leading features, are to be so considered, we are forced to regard in the same light all those forms of fever which owe their existence to malarial or miasmatic causes; the creative influences having, in each instance, a like form of existence, are alike inappreciable by the senses or by any known method of chemical analysis, enter the system through the same medium, and, presumably at

least, operate in the same manner—by contaminating the blood. I have so regarded and, when practicable, have so treated the various forms of fever so produced, since the cholera period of 1873. The results have been eminently satisfactory.

3d. The effective agent employed in both the preventive and the remedial treatment of cholera was chlorine: in the form of the tr. sesq. chlor. ferri to subserve the former, and a hyperchlorinated form of the same agent the latter purpose. Each, the prophylactic and the remedy, appeared perfect in its sphere. Hydrochloric acid alone, in a sufficiency of water, or the formula employed in cholera, omitting in some instances the tr. opii, has been employed, as the different features of individual cases have suggested, in the treatment of the fevers mentioned, since the period referred to.

4th. That certain organs do alienate from the system poisons, which, if retained, would not only prove hurtful to health, but often destructive of life, is admitted as a physiological and pathological truth. But when it is maintained that it is only through such media that relief from such influences can be obtained, support is given to a dogma at once untenable, absurd and of most mischievous tendency; inasmuch as the physician, operating under implicit belief in the generally asserted and accepted truth of the proposition, wastes the precious moments of his patient's life—the golden season of opportunity—in the effort, generally fruitless, to arouse such organs to action. But their functions are suppressed by reason of the poisoned condition of the blood, and we cannot, very reasonably, hope for their restoration until the offending cause is removed. Special excitants, such as calomel, dover's powder, digitalis, &c., &c., addressed to the liver, skin and kidneys, may suffice in cases of merely impaired function, but will generally be found unavailing and unreliable in complete suppression, such as is found in well developed cases of both cholera and yellow fever. Hence the pernicious effect of the dogma; and hence, too, the unsatisfactory results which have attended the various plans adopted in the treatment of these diseases, respectively. There is, I conceive, no error of the present pe-

riod which more gravely affects the public welfare, or which so seriously impairs the success of the physician.

5th. The doctrine of "personal disinfection," as it has been termed, asserts that if poisons of the character mentioned may enter the circulation, so also may the agent designed for their correction; that these toxical agents are, respectively, chemical entities of some sort, and, as such, are amenable to chemical laws and influences; that these poisons may be neutralized and destroyed prior to and independenly of the action of eliminative organs. The theory is in strict harmony with the beauty, wisdom and general perfection of the Creator's works; with the facts long since ascertained by Fodera, Mayer, Mitchell and others; with the well-known fact that medicines administered "per orem" or "per anum," by inunction or inhalation, are often found present in the secretions and excretions of the body. It is abundantly sustained by the phenomena observed in cholera, as well as in the various forms of fever which have been treated on the disinfectant plan. The different salts found present in the blood give, moreover, additional indication of the truth of the theory.

6th. Poisons of the character mentioned, whether material or gaseous, are the products of animal or vegetable decomposition.

7th. The premises conceded, it follows that we should select as remedies, in the treatment of diseases produced by causes of this character, agents of general and strongly pronounced disinfectant and antiseptic qualities.*

8th. Chlorine is destructive of all animal and vegetable odors and exhalations; and, by reason of this property, as well as the multiplied forms in which it may be used, it is perhaps better adapted to the purpose than is any other agent we possess. But, as this element, in its gaseous state, is not avail-

* Dunglison (Med. Dictionary), with questionable propriety, I think, uses these terms synonymously. For instance: The nitrate of potassa ($KO, NO_5$) is an agent of strongly marked artisiptic virtues, as shown by its effects when employed for the preservation of meats. When used medicinally it increases the flow of urine, and is thus "pro tanto" depurative. But it is certainly possessed of no disinfectant quality, whatever, in the proper sense of the term. The chlorate of potassa, ($KO, ClO_5$) on the other hand, is both anteseptic and disinfectant. The latter quality is prehaps less distinctly observable than in compounds abounding more largely in chlorine; but is nevertheless a manifest and an admitted property.

able for the disinfection of the blood, we should select that combination in which it most largely abounds, and which can most readily and safely be employed. Hydrochloric acid (H Cl) is best adapted to the purpose, because of the abundance of the element in comparatively small compass, the ease with which it may be administered; and is preferable to the salts of chlorine for the reason that, after its appropriation to the wants of the system, there is no residual base, as in the latter, which might hypothetically serve to increase the alkalinity of the stomach observed to exist during the initial stage of both cholera and yellow fever. The effects of the tr. sesq. chlor. ferri. as a prophylactic during cholera were perfect. Of the many hundreds exposed, in this and in other infected localities, embracing physicians, nurses, members of the same household, servants, grave-diggers, and others brought in constant contact with the disease, no one was attacked who had conformed to the suggestion, made through the public press, touching the use of the tincture as a prophylactic. The enfeebling effects of the cholera poison are generally experienced, to a considerable degree, prior to the stage of actual development of the disease. This agent happily subserved the purpose of both a tonic and a disinfectant. The demand for agencies possessing the same qualities existed only in more marked and urgent degree during the attack; and hence a hyperchlorinated form of the same agent was employed as the remedy.* This proved not less efficient and satifactory than did the former; whilst the results obtained were altogether too prompt, uniform, gentle and thorough to be justly, or even plausibly referred to other agency or influence than the disinfectant quality and action of the means employed. A series of experiments made by me, and elsewhere more particularly mentioned ("Cholera of 1873"), touching the qualities of hydrochloric acid, appeared fully to sustain the conclusion that the office of this agent, as it exists in the stomach, is not, as has heretofore been main-

*The formula employed was as follows:

℞. Tr. sesq. chlor. ferri ℥vi.
Hydrochloric acid ℥i.
Tr. opii . ℥i. M.
S. 15 to 30 drops every half hour to hour, etc.

tained by physiologists, to assist in the process of digestion by acting as a solvent of our food, but, by virtue of its antiseptic power, to prevent its decomposition before it is appropriated by the assimilative organs; and, as previously demonstrated, by its use as a prophylactic during cholera, to neutralize and destroy poisons which are continually entering the circulation through the medium of the lungs. The fact is fully attested by such experiments and such use of this agent, in the form designated, that ozone and chlorine bear an interesting and important relation to each other—the former operating to repress and correct poisons in the atmosphere and the latter to correct and repress poisons in the stomach and blood. Thus related in property and office, it follows that the absence of either necessitates, for the purposes of health, the constant and full presence of the other. That the mur. tr. ferri would prove as distinctly and thoroughly efficient as a prophylactic in yellow fever as it did in cholera, I have no doubt whatever; but whether there exists a demand, or even a justification for the use of iron, in this or other form, as a remedy, I do not know, and therefore defer to the judgment of those who have enjoyed opportunities for practical observation.* But that there does exist an absolute and imperious demand for hydrochloric acid appears evident, not only in view of the wonderful disinfectant power of chlorine, but of facts presently to be related.

9th. There arises on occasion of the epidemic prevalence of either cholera or yellow fever a co-operative influence, a foe to human health of formidable strength and proportions—ammonia. The absence, or the diminished and insufficient presence of ozone does not imply, at such times, more distinctly or surely the existence of the prevailing poison than it does that of this compound. Were ozone present, in sufficiency, in the atmosphere, neither could exist; but its absence is the signal for the prevalence of either or both. This is especially true of ammonia in cities, towns and crowded communities. Its chief

* I was gratified to learn from Dr Sternberg, of the U. S. Army, since this article was written, that he had been informed during his recent official visit to Havana, by the surgeon in charge of the hospital in that city, that better success had attended the treatment of yellow fever in that institution during the past year than ever before;—a fact which he attributed to the liberal use of the mur. tinct. of iron.

and abundant sources of supply are found in animal putrescence, and also, in more limited amount, in vegetable decomposition. Fresh meats, at such times, are observed to decompose earlier and more rapidly than during seasons of health. The same is true of every sort of animal filth. From the market house, the meat-house and kitchen ; from sewers, sinks, privies, stables, &c., &c., arises a constant volume of this most hurtful agent. Between no two substances in the whole chemical world does there exist a more intense or powerful affinity than that which governs the relations of chlorine and ammonia to each other. A familiar method of illustrating this fact consists in placing two unstopped bottles, one containing hydrocloric acid and the other ammonia, at an interval of several feet apart. The fumes are observed to arise and meet in the form of a dense, white vapor. Were an unstopped bottle of the acid, alone, placed on the table in a city when either cholera or yellow fever is prevailing, we should witness the same phenomena—the ammonia being abundantly supplied from the sources mentioned. Being of highly diffusible nature, it is everywhere present. It pervades the mansions of the wealthy and the cottages of the poor, is in the air respired and in the water drank, is both breathed and swallowed, until, by the constant and irrepressible play of affinities alluded to, the system is robbed of the presence and protection of the hydrochloric acid, naturally existing in the stomach, and the party exposed falls as easy prey to the prevailing poison. Watson (Practice of Physic, 4th Am. Ed., Art. Yellow Fever) quotes Blair as saying in regard to the disease, as it prevailed in British Guiana, that the patient's breath and the "black vomit" both exhaled the smell of ammonia—that in the latter "its presence is universal"—"may always be found when looked for," and "may be considered one of the tests" of that discharge. These facts, I conceive, are of importance ; indicating, as they do, the presence and effect of an agent not generally computed among causative influences, and revealing clearly the plea of treatment necessary to be pursued.

Unless contra-indicated by evidences of organic lesion, hydrochloric acid should be constantly, conspicuously and

predominantly present in all yellow fever prescriptions; nor should the administration of this agent be governed by the doses ordinarily prescribed or required, inasmuch as the demand is both urgent and inordinate.*

Both the acid and its compound, the muriated tincture of iron, have been occasionally employed as remedies; but neither, so far as I am aware, has ever been suggested as a prophylactic. The author just quoted from speaks of the tincture as "coming to us with such strong testimony in its favor as a remedy adapted to even the earlier stages of yellow fever, that it demands further trial. Yet I have seen no statement of the method in which either has been employed—no explanation of the circumstances which require their use—no detail of results—no rationale of treatment. The "Qui fit" has not been answered; and without a correct appreciation of the character and force of influences which render the use of the agencies designated not only appropriate but necessary, there appears good reason to apprehend that they have been employed irregularly and in doses totally insufficient.

If I am correct in the views expressed touching the practicability of disinfecting the blood, it will readily occur to the intelligent reader that, in the properly regulated use of the muriated tincture of iron, with or without a super-addition of hydrochloric acid as may be found best, will be found a plan of protection from both cholera and yellow fever far more efficient and reliable than that afforded by quarantine and one, too, which will not in any measure disturb the peace of society nor the interests of commerce. I beg that I may not be esteemed sanguine, without reason, when I express a confident hope that this fact will be established.

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*With the view not of encouraging the needless and indiscriminate use of the means indicated, but of showing how urgent is the demand for them on such occasions, I beg leave to reproduce from my paper on cholera the following:

"The dose suggested may, I am satisfied, in cases requiring it, be safely doubled, tripled or even quadrupled. A negro woman suffering from an attack of cholera, took a tablespoonful of the mixture undiluted. No ill effect nor even inconvenience was sustained, beyond copious and loud eructations of gas from the stomach. A gentleman gave to his child, nine years old, a tea-spoonful. The cholera was, in each case, promptly arrested, a second dose not having been required by either. The security from ill effects, in such cases, is doubtless due to the alkalinity referred to."

## A Case of Periodic Worm Fever.

By S. S. HERRICK, M. D.

The Philadelphia *Medical and Surgical Reporter* of Nov. 1st, 1879, contains the account of a case of supposed congestive chills caused by lumbrici, from Dr. J. A. Hutchinson, of Salamonia, Ind.

The subject was a married woman, 19 years old, who had lately become a mother. Between Sept. 19th and 27th, she had daily attacks of great severity, somewhat unlike malarial paroxysms, but which were supposed to be of that nature by several physicians. Quinine to the amount of ʒj was given between paroxysms without the slightest effect, until a lumbricoid made its appearance in the throat. Santonine and calomel were then resorted to, followed by castor oil and turpentine. The result was the expulsion of nearly a gallon of lumbrici and the immediate cessation of the paroxysms.

The publication of the above case determines me to report a similar one, which came under my observation during the summer of 1879, the subject being a girl eleven years old, previously in fair health.

She was first observed to have fever in the evening of May 24, not having felt quite well for several days previously, though she did not stay away from school. The first remedy tried was sulphate of cinchonidia, but this disappointed me, though it had given satisfaction in previous cases. Quinine was then tried, the fever in the course of a week having assumed a remittent or almost continued type.

On June 5th the fever, having abated the previous night, was followed by a very severe paroxysm, and, as it declined towards night, eighteen grains of salicine were given before bed-time, followed by nearly forty more in the morning. The paroxysm returned one hour later and somewhat lighter. The salicine was continued in increased quantity, but without success.

On the following morning, June 8, she took twenty grains of quinine and escaped the fever. On the 9th she took fifteen grains, and again escaped. The medicine was then suspended, and June 11th fever returned in the evening. The quinine was resumed, but the fever returned nevertheless. June 14th she had a paroxysm while fully cinchonized.

It was then determined to try the effect of change of air and scene. June 15th, she was sent to Bay St. Louis, the use of quinine being continued. Her mother accompanied her, and gave favorable accounts of her case during their two week's stay. At the expiration of this time I saw her there, and became satisfied that the daily paroxysms had only diminished in severity. As it was inconvenient for her mother to remain there longer, she was brought back to the city June 29th. It is to be remarked that during the last week she had been taking a combination of arsenic, iron, cinchona and strychnine.

After returning she again took quinine daily, in addition to the above mixture, but the paroxysms returned punctually. July 3rd, 20 grains of the dextro-quinine were given, but were followed by a high fever. The next day she was sent to the upper part of the city, to the house of a relative, and had an evening paroxysm after taking twenty grains of quinine. No improvement having followed this change, she was brought home July 7th.

The next day another plan was tried. An ipecac emetic was administered before breakfast. At 9 and 11, A. M., she took seven-and-a-half grains of quinine together with one drop of carbolic acid. From 10, A. M. to 4, P. M., she crossed the river back and forth on the Canal street ferry boat. The fever returned at 6, P. M., and ran up to 104.5°. That night she took a large dose of calomel. The following morning the calomel operated and the emetic was repeated. Twenty-four grains of quinoidine were given during the day, and the paroxysm delayed its visit until after she was asleep that night.

July 11th, an ostrum called *thermaline* was resorted to, supposed to consist chiefly of quinoidine, and the trips on the ferry-boat were continued. The daily paroxysms seemed to diminish in severity, and to interfere very little from this time with her appetite, though she was very weak and thin in flesh.

July 13th, she was again taken to Bay St. Louis, where she remained two weeks, taking the thermaline most of the time. Though not under my observation, I have no doubt that she had more or less fever every day. After her return she passed several hours daily on the ferry-boat, and "Wilhoft's tonic"

was given a trial, with about the same effect as in case of the other antiperiodics. The paroxysms returned almost daily, though not invariably so, but with less severity than previously, and no regularity as to the hour of the day. None was observed August 6th, but there were paroxysms on the two following days.

At last it struck me that intestinal worms might be the cause of the trouble, knowing that she had previously been annoyed by seat-worms and witnessing the failure of all remedies of an antimalarial character. Accordingly, on the night of August 8th, she took some pills containing 4 grains of santonine, the same of aloes, together with 5 grains of calomel. The following morning she voided a small quantity of white worms about a quarter of an inch long. From that time the paroxysms ceased, and she has never had one since. These worms differ from the ordinary ascarides in size, being rather longer and larger in diameter, while they have the odd property of doubling up and hopping to a considerable distance, like maggots.

It is an interesting question how far this case was affected by malarial influences, if at all. The child had not been subject to periodic fevers previously, more than other members of the household; while other children in the same family have at times been troubled with ascarides. We are all aware of the liability of malaria, in this climate, to complicate most of the diseases which we are called upon to treat, and the necessity for resort to the usual antiperiodics. In the present instance they failed to arrest, though they appeared to mitigate the paroxysms.

A remarkable feature of the case was, that these paroxysms, recurring almost daily for two and a half months, during the greater part of the time scarcely diminished her appetite, and she was able, generally, to walk about. Another fact is notable, that she has since been annoyed by the irritation of these little pests, without any febrile manifestation whatever. If we accept the most obvious explanation of the case, on the ground of reflex action of the vaso-motor nerve-centres caused by peripheral irritation, and rendered periodic by malarious influence, it would be difficult to discover why, under apparently the same circumstances, the periodic fevers never appeared before May 20th, nor subsequent to August 8th, 1879.

## Some Remarks on Common Eye-troubles.

By O. R. LANNG, M. D.

(Read before the New Orleans Med. and Surg. Association, Feb. 21, 1880.)

GENTLEMEN—Imitating a confrére in New York, who some time ago read a paper on diseases of the eye before a medical society in that city, I shall take the liberty to-night, to offer to the Association some general remarks on these diseases, and try to do it in such a way, that they may be acceptable to the general practitioner, not touching upon such subjects as belong exclusively to the province of the specialist.

I believe I am right in supposing the existence of specialties to be justified by the results obtained by them; it stands to reason that a man, who devotes all his attention and all his energy to a small field must acquire more experience and routine, and consequently more success in his specialty, than one who has his mind occupied with very many different things. In modern industry this practice is called division of labor, and the results obtained by it have proved satisfactory. Nevertheless it will often devolve upon the general practitioner to give his advice and undertake the treatment of cases, to which specialists devote themselves, and the public will rely upon the family-physician to point out the beginnings of disease of whatever kind. I beg the Association to accept my observations merely as hints, which may facilitate the understanding of important defects of sight, and help in curing diseases of the eye; and which may induce to recognize the necessity of making use of particular knowledge.

All ages are subject to defective sight, but, while an adult will easily detect an acquired deficiency and seek proper advice, it will devolve upon the parents to notice whether their child has a good sight or not; it is easy enough to know when a child, even a quite young one, is totally blind, from its complete lack of interest in its surrounding, but it is of importance, that other deficiencies in its sight should be recognized at an early period. The child itself has of course no judgment; it supposes the sight it has and to which it is accustomed since its birth to be as good as that of other people; this early atten-

tion to the sight of children is of great importance, as otherwise the continued existence of a deficiency may prevent the natural moral development of the child and mar its general character.

In numerous cases the defective sight is caused by errors in refraction; some of them as hypermetropia and astigmatism are usually congenital; another error viz: myopia or short-sightedness is usually acquired later, even if there be a hereditary disposition to this anomaly; but there is no doubt that much can be done in order to prevent and check the development of myopia by observing some simple principles. I shall only mention that in reading, the proper position to occupy, is to turn the back to the light and to allow the light to fall upon the book or whatever the object be; all reading in twilight or at insufficient artificial illumination should be avoided. In schools it ought to be enforced that the desks and seats be so constructed that the pupils are kept at a proper distance and not forced to stoop; if these conditions be not observed, the accommodative power is taxed unnecessarily, producing congestion to the eye and myopia of higher or lower degree. As an evidence of this statement we find that short-sightedness is much more common in city populations than among country people, and that in cities myopia is to be found most frequently among such persons whose vocation it is to read much.

Although hypermetropia, in contrast to myopia, does not increase in degree by a faulty opthalmic hygiene, its effects become more unpleasant the more the eyes are strained; in the beginning it will show itself only by some fatigue, but soon the writing will present a blurred appearance and an effort to overcome the trouble will cause a neuralgic pain around the eyes; one step more and we see strabismus brought on by this visual error; especially does this often happen by an accidentally occurring illness. Every practitioner has heard his patients complain during their convalescence that their eyes have been weak, by which they mean that they cannot see the letters as distinctly as they could before their illness; this circumstance is caused by the weakening effect of the illness on the muscles in general

and in casu on the ciliary muscle, which controls the accommodation; this condition might be termed temporary presbyopy or far-sightedness. As the body improves in health and vigor, the ciliary muscle, too, will recuperate its former strength and the accommodative power will be restored. Illness is often the accidental cause of the development of squinting, and this is the reason why we so often hear parents state that their child became cross-eyed from having had the measles, or bronchitis, or diarrhœa, or from teething, and so forth. The fact is, that the child was hypermetropic, was born so, and being in good health had sufficient accommodative power to overcome the error of refraction; the accidentally occurring disease deteriorates the child's accommodation as well as its general strength; during the colvalescence it makes efforts to see distinctly, and in order to do so, it strains the accommodation unnaturally, which, through reflex-action, brings the ocular muscles into function, and the child squints—in the beginning periodically when it looks at close objects—later continually and at all distances.

A judicious use of glasses will do away with the annoying symptoms, which furthermore may manifest themselves in hyperæmia of the conjunctiva, redness of the eye lids, blepharitis, sties, etc. We cannot cure the existing visual error, but we can compensate the faulty refraction by glasses, in the same manner as a person with one leg shorter than the other, enjoys more comfort by applying a thick-soled shoe. It is a popular opinion, that it is injurious to the eye to make use of glasses; this opinion is erroneous. I have already mentioned that very poor sight in children has a bearing upon their character, which may remain for life; in improving their sight by suitable glasses, if the dim sight depends upon faulty refraction, things immediately appear to them in a quite different light, and a child, who before appeared to be dull, silly and awkward, may now, under the influence of the new impressions it receives from the outside, brighten and develop itself in a more favorable manner. But even if the faulty refraction be of a lower degree, not to make use of glasses is only to inflict upon the children unnecessary discomfort; in many cases the use of

glasses can be eluded only at the sacrifice of not using the eyes for many occupations, as reading, sewing and so forth. These same remarks may be applied to presbyopia or far-sightedness, the condition which appears with the arrival of middle life. The first symptoms of this decline of accommodative power, are well-known; small objects (small print, fine needle work, etc.), cannot be seen with such ease or at so short a distance as before, but in order to see minute objects more distinctly, the patient is obliged to remove them further from the eye or even to seek a brighter light. But as the retinal images of these fine objects are very small, on account of the distance at which they are held, he will soon experience a difficulty in clearly distinguishing them; print, for instance, will get indistinct and confused, and the eyes become fatigued and painful. Far-sighted persons will inflict unnecessary discomfort upon themselves by postponing the application of slight convex glasses, and only at the sacrifice of many occupations.

In reference to strabismus as caused by hypermetropia—and that is in a vast majority the case—I have yet a few words to say. When monolateral strabismus has existed for some time, we see that the squinting eye gradually loses its vision from not being used, in the same way as an arm would lose a considerable part of its vigor from lack of exercise, if put out of function for some length of time. An operation performed in such a case may be considered a kosmetic success, but not as to sight, which will not be restored by it. A timely use of glasses would have prevented the subsequent squinting, or if cross-eyedness had already been established, glasses applied at an early period would have rendered it possible to obtain binocular vision by an operation, which might be performed later. Usually, all that is obtained by an operation for monolateral strabismus is that the eyes look as if they were working together, while in reality one eye only is in function, and the other is following it in its excursions.

Out of the conjunctival affections, I shall only mention the form which occurs in new-born infants, not because I have any new suggestions to make in the treatment of this malady, but as the practitioner necessarily often must come in contact

with it, I think a few words may be of interest, so much the more as it may depend entirely upon his skill whether his little patient shall come out of his hands seeing, or blind for life-time. The first indication is prevention. The eyes should be washed with warm water directly after birth, and most carefully, and this should be repeated frequently. In the simple catarrhal form, cleanliness and the application of a weak astringent, as borax or alum, is usually sufficient. But if the discharge be thick, creamy and abundant in quantity, a more energetic treatment is of course demanded. The lids must be thoroughly everted, a manipulation which is not always an easy thing to do on a new-born baby, and to the red and swollen membrane a solution of nitrate of silver, 5 to 10 grains to the ounce, must be well applied; this should be done to both lids and repeated as the discharge again becomes thick and abundant. Besides this continuous wiping away of the discharge, steady application of cold water and washing with a solution of alum should be practised. In still more severe cases it is preferable to use the mitigated stick. In ophthalmia neonatum I have so far never seen a case that did not yield to this treatment, which invariably has checked all threatening symptoms; on the other hand I have quite often seen sad consequences of the disease being allowed to run its own course, under the plea that it was only a cold, which invariably is treated by the sovereign remedy of squirting a little of the mother's milk into the baby's eyes.

The diseases of the cornea form a rather unsatisfactory chapter in ophthalmology as to the classification as well as the treatment. It is difficult to find well marked distinctions between the many different forms of keratitis, and as to the treament, what until quite lately has been looked upon as fundamental, seems to be on the point of being entirely upset. For years atropine has been considered indispensable in the treatment of keratitis of whatever kind; during the acute stage nobody would think of using anything else, and it is true, that quite a number of cases of keratitis yield to this treatment, but the same result might in many cases have been obtained by a merely expectative treatment, or none at all. But

a good many other cases of keratitis, especially in such where the cornea is deeply or extensively infiltrated with pus, atropine seems not to have the slightest effect; in such conditions it is lately recommended to apply a solution of sulphate of eserine, a new agent, which possesses the opposite effect of atropine on the iris; while atropine dilates the pupil and paralyses the accommodation in acting upon the ciliary muscle, eserine contracts the pupil and produces spasmodic action of the ciliary muscle. I have in a few cases lately used this remedy apparently with good result. En passant, I shall only mention that in a bad ulcer of the cornea with extensive destruction of the tissue, complicated with accumulation of lymph and thick pus in the anterior chamber, nothing can compare in efficacy with the free division of the structure, horizontally across the cornea with a fine Graefe's cataract knife. We owe this method to Prof. Saemish in Bonn.

In another sense a reform is taking place in the hitherto established theory about different ailments of the cornea. General surgery has undergone a revolution by the introduction of antiseptic dressing of wounds. and it is therefore natural that ophthalmology should also have its share of the advantages. So, several forms of affliction of the cornea, especially ulcers, with a free secretion of matter, are looked upon as being infected and in conformity with this theory such ulcers are cauterized, with the object to destroy the infection and by the eschara to protect it temporarily from a fresh invasion. The cauterization is done by touching the spot with a strong solution of nitrate of silver, or the stick or even with the cauterium actuale; this last agent I have, however, not used myself.

But the reformers do not stop here; the whole grand, antiseptic apparatus has been introduced into ophthalmic practice; especially in cataract extractions, where a severe injury is done to the cornea, and where it is of great importance that healing should take place without accompanying inflammation the whole antiseptic apparatus with carbolic spray before and during the operation, air-tight, antiseptic bandaging, etc., is proposed and adopted by some practitioners. But, it seems to me, that how-

ever well the field of operation may be disinfected, and however well air-tight bandaging may protect it from a fresh invasion, some sly bacteria might travel through the lacrymal canal, pass the lacrymal sac and through the lacrymal points slip inside the disinfected fortress, and the antiseptic apparatus would then be attacked from behind, so to speak. The friends of the treatment claim that such foul dealing on the part of the bacteria cannot take place; they do, however, not argue the point, but I suppose they must be right or they would not say so.

Still, based upon the theory that different inflammatory processes of the eye, and especially such as occurring after cataract extractions, are promoted by an infection, it has been proposed, quite lately, to make extensive use of ice. Immediately after the operation, whenever inflammation is anticipated, the lids should be covered with a piece of linen dipped in a weak solution of carbolic acid, and ice-cold compresses be applied to the eye, and changed frequently and gently without removing the piece of linen directly covering the lids. This proceeding should be kept up for 1 or 2 hours, and repeated whenever circumstances should necessitate it. Accepting it as true that some kind of fermentation is the cause of such inflammation, and recognizing the faculty of low temperature to check the development of mikrokosmi, there may reasonably be expected a beneficial effect from the use of ice, as the locality can easily be put under its influence, and as the layers, which ought to be acted upon, are quite superficial. The treatment needs, however, to be tested more extensively before any positive opinion can be formed about its efficacy.

Before I close, I have yet one form of keratitis to present: I allude to the so called nail keratitis; the name does, however, not involve that the injury shall always be done with a finger nail; any superficial abrasion may have the same effect; I have seen it produced by a fan, or a thin card, or a piece of straw; the name is derived from the circumstance, that it often is a child, who, playing with its mother, with its nail produces a superficial abrasion of the

epithelium of the cornea. It is characteristic with this lesion, that, in spite of being apparently very trifling, it often gives rise to very much pain and when apparently cured may reappear periodically for months and even for years.

Many more opthalmic subjects might deserve to be treated and much more might be said about the subjects I have touched, but anticipating that the association has had enough of ophthalmology for to-night, I shall not tax its patience any further.

## Chronic Inversion of the Uterus of Fifteen Months' Standing Reduced by Manipulation and Sustained Elastic Pressure.

(Case reported to N. O. Medical and Surgical Association.)

By E. S LEWIS, M. D.,

Professor of Obstetrics and Diseases of Women, University of Louisiana.

In the October number of the New Orleans Medical and Surgical Journal I reported the successful reduction, by Emmett's method, of a chronic inversion of the uterus of five months' standing. A second case of fifteen months' duration has been in my charge and was successfully treated by manipulation and sustained elastic pressure. The history is as follows: Mrs. B., from Lafourche parish, La., naturally healthy and strong, married at 18 years. She gave birth to a large male child ten months after. The labor was tedious, lasting three days, and was conducted by a black midwife. During the close of the second stage she was directed to sit on two chairs, and in that posture was delivered. She then walked to her bed and immediately the placenta was removed by traction on the cord. Its removal was attended by a frightful hemorrhage which caused syncope. A physician, Dr. D., was sent for who arrested the flow by tamponing the vagina with rags saturated with vinegar. A slight flow continued which was regarded as not exceeding the ordinary lochial discharge. Her convalescence was tedious. In attempting to rise on the fifteenth day she fainted. When she could stand and walk, she observed a red tumor projecting beyond the vulva, which bled. Another physician, Dr. S., was consulted who diagnosed a complete in-

version. He made no attempt at reduction. Four months later, in company with Dr. S., she came to New Orleans and applied to a competent practitioner for relief. This gentleman attempted reduction by manipulation under chloroform March 5th, 1879, but without success.

He then introduced a Hodge pessary to retain the uterus in the vagina, which was worn until Jan. 22d, 1880, when she sought my advice. Her condition was good, not anaemic, and her weight 151lb, although she gave a history of frequent hemorrhages, profuse at the menstrual epochs, which she passed in bed. Notwithstanding the pessary, the uterus protruded from the vulva in stooping or straining. Vaginal examination, Jan. 22d, 1880, confirmed the diagnosis of complete inversion, and showed the uterus of ordinary size.

Jan. 23d a rubber bag was introduced into the vagina and distended with water, after Tyler Smith's method. Her menstrual period being due, and having the usual symptoms, it was removed the following day. The menses appeared and lasted five days.

Jan. 31st the bag was replaced. Feb. 1st, in company with Prof. Elliot and Mr. Bourgeois, to whom I am indebted for the notes in the case, she was injected with a fourth of a grain of morphia and chloroformed. The bag was then removed and it was found that the uterus had been pressed between it and the vaginal wall, from its flattened appearance. We then attempted reposition by Emmett's method; but, after an hour and a half's work, found that though the uterus was smaller from the effects of pressure with the fingers only, a part of the cervix was reduced. The bag was again replaced, being removed every second day to cleanse the vagina, and continued until the following Sunday, Feb. 8th, when a second attempt, under chloroform, was made at restoration, with but little gain. With the right hand still in the vagina, pressing the uterus up as far as it could prudently be pushed, the bag was then introduced, pressing it with the left hand along the palmar surface of the right until it reached the fundus.

It was then injected with water, and as it began to distend, the right hand was carefully removed from the vagina, whilst

two fingers of the left hand pressed the inferior extremity of the bag up to prevent displacement. The bag was then filled until it became fixed, and did not yield to traction on the rubber tube attached.

February 10th, it was removed, the vagina was out, and the bag returned in the same manner.

February 12th, an examination was made, and the uterus found more than half reduced, the body and fundus within the cervix. The bag was replaced.

February 15th, Sunday, I removed the bag to make a third attempt under chloroform, but found the uterus completely reduced. With two fingers of my right hand, I explored the cavity of the body, and found it perfectly normal.

February 17th, I made a speculum examination, found the uterus measuring 2¾ inches in length, and the cervical canal patulous. To stimulate the uterus to contraction, and modify the condition of the mucous membrane, I scrubbed the cavity with Churchill's tincture of iodine.

The two cases I have seen and reduced, have satisfied me that sustained elastic pressure, whether with the bag after Tyler Smith, or with the cup and stem attached by elastic bands to an abdominal belt as practiced by Lawson Tait, is safer, more frequently successful and an economy of labor. In introducing the bag, the uterus should be well pushed up first, otherwise the pressure is but slight upon the fundus, and the bag, at the moment of distension, may rise between the vagina and uterus compressing it laterally.

## Re-Union of an Amputated Finger.

By R. A. GREER,

Student in the Medical Department of the University of Louisiana.

Charlie Nilson, an adult male and employee at a steam shingle-factory, applied at my office (Hawkins, Texas) April —, 1875, with the third finger of the right hand entirely severed, half-way the second phalanx. The fragment was presented me lying in the palm of the same hand, enveloped in a coagulum of blood, which had formed while he was walking to my office, a distance of three-fourths of a mile.

Observing no possible means of obtaining a flap sufficient to cover the end of the bone without subjecting him to an operation, the thought of attempting to save the finger next occurred.

This I proceeded to carry out by first gently sponging the parts, to remove any foreign substances present. The parts were then carefully adjusted, two sutures of ordinary flax were placed on each side, to the depth of the skin, and the finger was carefully confined by means of a bandage to a splint on its palmar surface. The time which elapsed, from the accident to the adjustment of the amputated extremity, was about one hour. I had some hope of success, and requested the patient to keep the arm in a sling, in order to ensure perfect rest to the parts, and to report in four days. The patient reported on the fourth day, as requested, and, to my very great satisfaction, I found that perfect union had taken place, and by the tenth day nothing remained to mark the site of injury, save a slight cicatrix around the line of separation. Thus the fact is again demonstrated, that the first effort of the surgeon should be to save a member, even when success is least promising.

## CORRESPONDENCE.

*Messrs. Editors*—In two cases of child birth of very recent date, I practiced Stokes' method in the treatment of the cord: as soon as the circulation began to grow feeble, I compressed the cord between index finger and thumb, two inches from the child's abdomen, and then severed it with scissors. No ligature was applied on either side of the cut; no swathing band was applied nor any dressing to the cord, it being left to shrivel and dry. Both cases are doing as well as any I ever practiced tying on. Will practice Stokes' method further, and will report same to your Journal. Truly yours, etc., E. E. P.

From Our Boston Correspondent.

*Messrs. Editors*—In any move whereby the well-being of the people may be improved, Massachusetts is habitually to the fore. But there is a most annoying and unfortunate exception:

we are quack-ridden to an extent which is positively incredible. There is no redress against the inroads of the ignorant, cold-blooded creatures who dare to put out a physician's sign unsupported by the smallest knowledge of medicine. These bare-faced humbugs intrude themselves upon us at every turn. All unchecked, they have drained the purses of those simple beings who prefer bombast and claptrap to knowledge and science. The belief of the laity in some forms of quackery is as amazing as it is deplorable. Current is the story that the wife of a Cambridge professor paid a thieving quack in Boston *seventy-five dollars* for one bottle of his wonderful medicine. Somewhat triumphantly she submitted it to her family physician, a man of such ability and experience, that his name is known throughout the country. He had the stuff analyzed and regretfully informed the lady that, far from being composed of miraculous and heretofore unknown remedies, the elements of her medicine were known to everybody, its value, about six cents. If this were the end of the story, it would serve as a useful comment upon the dishonesty of quacks. But it has a sequel: The lady finished her bottle of quackery and—*at once paid* $75 *for another!*

Two years ago a gentleman of education fell in love with a man who calls himself a physician and who has a goodly number of intelligent patients. The primary difficulty in this gentleman's case probably was spasm of the œsophagus. The quack pronounced it diphtheria, then changed his mind to pneumonia, then to "liver complaint," and finally settling upon cancer of the stomach, he "went for" his patient. Treatment consisted of violent emetics every day or every other day for three months; baths in hot saleratus water in which the patient was kept until he began to faint; massage of prolonged and violent character; hot water as a steady diet, to the exclusion of good food, especially milk. Other directions, the most arrant and impudent nonsense, were given, but the principal features of the treatment were those I have already mentioned. The gentleman lost fifty pounds in weight within ten weeks. Then went abroad looking like a ghost and returned not much improved in appearance, and at once recommenced emetics, etc.

Summer came again, and found him at his country house, in

a very exhausted condition. One day he took cold, and was seized with violent pain in the region of the bladder. Sangrado was called from Boston. His first means of relief was an *emetic*. His second, violent massage, especially *over the bladder*. He remained with the unfortunate patient for *two* days and nights, then returned to Boston. The next day a regular physician almost accidently saw the case; within ten minutes he introduced a catheter, and drew from the poor fellow's bladder *three pints* of urine, so rotten, so foul, that it was next to impossible to stand near it. It ruined the gum catheter, and wherever a drop touched the patient's skin, a pustule followed. The sick man was already in the first stage of coma, but rallied a little, yet, in spite of everything science could do, died of blood poisoning. His year of preparation for his last illness, and his final treatment at the hands of this rascal, render the patient's case one of the most pitiful and enraging of all similar instances that have ever come to my knowledge. This quack, however, is still engaged in the work of destroying the health of valuable people. In a case of rapid consumption, he stopped *all food*, and kept the patient on hot water until discharged by the indignant parents. Amazing as it may seem, those of his patients who are not dead have the utmost faith in this brute and think his power miraculous. I cite him at length, because he works among an intelligent class of people and also as a proof that the laity need to be protected against their own foolishness.

Unfortunately, however, it must be confessed that the public opinion of physicians in this country, in too many instances, has been strongly prejudiced by the blunders of half-educated men, who are still turned out of our second and third class schools, nearly by the hundred.

Be that as it may, thoughtful minds in this state have concluded that charlatanism has held sway in Massachusetts long enough. I am heartily glad to say that active measures are being taken to uproot and deliver the state of medical quacks and quackesses. To this end the health department of the Social Science Association has resolved to request a member of the General Court, at its next session, to move that the

Health Committee be instructed to consider and report "an act to regulate the practice of medicine, for the protection of the community." You know what the severe medical act in Illinois has accomplished, in ridding that state of quacks. Of course, when driven from one state, these creatures will emigrate to states unprotected by quackery laws. This is what the Social Science Association seeks to prevent, so far as Massachusetts is concerned. The Association not only urges the matter upon physicians and the public, but has laid the draft of a proposed law before many leading physicians of the state, who have authorized the Association committee to state, that its general purpose and principal features meet with their approval. Eminent counsel and physicians were consulted in the preparation of the law.

It provides for the creation of a board of registration, to be composed of eight physicians of education, and one practitioner of dentistry in good standing. The board shall meet twice yearly. Applicants for licenses must be 21 years of age, and show their knowledge of medicine and ability to practice. Any person who is a graduate of an accepted school, at the date of passage of the law, shall be licensed. A license to practice midwifery may be granted to any person not less than 21 years of age, who has a good reputation, if found qualified. The same in case for a dentist's license, etc. The general purport of the law is to rid the state of frauds and ignorant pretenders, and secure properly qualified practitioners. It is to be regretted that Massachusetts has waited so long before taking this step, but—better late than never. In England, Germany or France the quack, concerning whom I have given you details, would be imprisoned. We have no remedy here. He distributes cards, one inch square, which informs the public that his specialty is the cure of cancer and bears the invitation "come and C me" (*Sic*). Is it not almost beyond belief that such a ninny can find employment among intelligent people?

You are probably aware that, at their October meeting in '79, the Councilors of the Massachusetts Medical Society, by a small majority, voted in favor of the admission of women to examination for entrance to the Society. This result naturally

created jubilation among the friends of the movement, but its opponents believe that the question was not yet settled. Many felt that it had not been fully or fairly discussed, and the Censors of the Suffolk District, branch of the parent Society, at once found their position one of grave doubt; for they saw in the vote either "an alteration of the by-laws of the Society," or "a new interpretation of the same." If it be an alteration of the by-laws, its ratification requires the concurrence of the whole Society. If it be a new interpretation, it is not binding on the Censors unless ratified in general meeting. This last position is made good by a comparatively recent by-law, viz: "No authority exists for interference in the duties and decisions which, by law, are vested exclusively in the censors." The censors, therefore, found themselves obliged to interpret the laws concerning admission into the society. If they unreasonably exercise this right, a heavy penalty falls upon them. On the other hand, if they unreasonably refuse to examine a duly qualified candidate, they subject themselves to a fine of $400. Their embarrassment and their inability to conform to the recent vote of the council led them to present their case before the February meeting of the councilors, holden last week, in the form of a respectful protest, which asked for instructions and gave their reasons for preserving a strict neutrality until their doubtful position is made clear. The councilors quickly saw the legal point, and the result was a vote in favor of reconsideration of the October decision. The matter, therefore, stands precisely as it did before the original discussion. Since the general Society, sooner or later, will be drawn into the controversy, we may expect some sharp sparring. At the councilors' meeting last week it was moved that the matter be referred to the Society at its annual meeting in June, but this precipitation was overruled by a councilor who pleaded for more discussion and examination of the subject in council. This led to the vote of reconsideration of the October vote.

At the same meeting was brought up, for the third time, the code of ethics, which for nearly three years has been in course

of preparation. It is a code intended for the Society, albeit the need of such a guide seems not to have been greatly felt during the one hundred years of the society's life. The original committee of three presented the primary draft of the code to the council in 1878. It was criticised without mercy and recommitted to the Committee, which was reinforced by two additional members. Again, when the matter came up, the committee asked for more time, and the result was the presentation of two codes, one signed by four, the other by one of the committee. A warm discussion followed, as you may see by the *Journal* of February 12th. Many councilors favored the majority code with its profusion of detail, because they felt that it should provide for all sorts of medical solecisms and all sorts of queer cases, and endless varieties of queer men. They felt that young physicians, who are unformed in the simple courtesies, which are really the foundation of medical ethics, would gain nothing from a code of ethics, unless it included the A B C of instruction. Their opponents argued that such a mass of detail, such suggestions of dishonorable, petty and mean and underhanded trickiness as were contained in the majority code, were unworthy of a liberal profession like medicine. They favored the code drawn up Dr. H. J. Bigelow, and couched in terse, concise terms, but which, it argued, cover every necessary point, by keeping in mind the high principle which should govern every physician in his intercourse with his patients and colleagues.

The minority code carried the day.

Much sympahy was felt for Dr. Colting, the chairman of the committee and actual author of the majority code. He has labored indefatigably for many months. Has corresponded with a great number of societies, and read everything in the shape of a code upon which he could lay his hands. From the immense quantity of matter thus gathered, he selected such "live details," and such only, as he deemed would have a bearing upon the medical practice of to-day, and meet every possible need of physicians in their intercourse with, and treatment of, their patients and each other. Dr. Bigelow took this code, and rejecting from it everything which seemed unnecessary,

and forming the remainder under separate heads, presented it, and it was accepted. This seemed a defeat which it must be hard for Dr. Colting to bear. But he is sufficiently philosophic to see that his code was the basis of the one chosen. If one had been absent, the other might not have been born. Moreover, he loves the old Massachusetts Medical Society so earnestly, that if *she* thinks the minority code what is needed, he will only be glad she has found it. H. O.

Boston, February 13th, 1880.

# Current Medical Literature.

## LECTURES UPON THE MODERN TREATMENT OF SYPHILIS.

By Dr. Carl Sigmund, Knight of Hanor, &c.

When a veteran like Sigmund speaks, he may well command the most respectful hearing, and when, after an observation of syphilis larger than had fallen to the lot of any other man, he gives his deliberate judgment, in language which evidences the conscientious thoroughness with which he has studied so important a disease, every student is put in possession of a prize whose worth is beyond computation.

And this is what we find in these lectures. Their subject matter is a perfect mine of mature thought, and in their manner there is a transparent fairness which cannot fail to charm, even should there be a few unconvinced by what has so little of an argument. At the outset the importance of avoiding the error of regarding syphilis as a "specialty" is dwelt upon, and the necessity for the broadest and most thorough education in considering a disease so wide-spread, so grave and so intimately related to others. After this there is a brief statement of the separate and distinct natures of gonorrhœa, the simple venereal ulcer (chancroid) and syphilis, of which the primary lesion is the chancre. Each he believes to be due to a special germ, never yet isolated. The repeated occurrence in the same individual of the former two is contrasted with the exceptional second attack of the latter, with which is coupled this remark: "The extremely few instances of a repeated attack of syphilis (re-infection) which I have myself observed, have left me much in doubt as to the entire correctness of the previous or of the present diagnosis. Further I should add, that I know no case in my own circle of observation, in which, after an established

attack of syphilis, a later, new and second infection followed. I know, of course, cases so designated, a more careful observation of which, however, controverted the diagnosis of a second infection."

In regard to *diagnosis*, attention is called to the unreliability of the patient's statements, and the indispensability of a thorough examination by the doctor. As far as possible this should include every part of his skin, as well as the various inlets and outlets of the body. In menstruating and lying-in women there should be no excepting of the sexual organs, notwithstanding the established prejudice against such examinations. Indeed, they are then of special importance. With the examination for syphilis proper there should be a most thorough investigation for open or latent diseases of other sorts, lest their appearance during treatment be misconstrued by the physician, which would be unfortunate for science, or by the patient, which would be injurious to the doctor. In conducting the examination, Sigmund recommends the use of all available instruments of precision, including that to which Sir Henry Thompson has so recently given the cold shoulder—namely the endoscope.

Of the symptoms he gives the well-known details, and for convenience divides them into primary, secondary and tertiary, with the well-known qualification, however, that nature often disregards this artificial arrangement.

In regard to *treatment*, he advocates the early destruction of the initial lesion. This may be by the knife, even to the extent of circumcision when the prepuce is its seat, or amputation of the labia minora or portio vaginalis of the uterus, if the lesion be there. Aside from the advantage of removing the bearer of the germ and infecting material, these operative procedures facilitate the cleansing which is so essential in treating syphilis, and substitute healthy union for those tough cicatrices which result from the action of the disease.

This is the opening word for an earnest advocacy of local treatment in the earliest stages. Not only the chancre, but the first cutaneous and mucous disorders, he would have treated by direct application of suitable remedies. For the initial lesion, when the knife, the actual cautery, or strong acids cannot be used, carbolic acid of strength suited to the case may be used, or iodoform, which limits suppuration very efficiently. In cases where there is but slight scaling off of the epidermis, or shallow erosions, the chancre may be treated with mercurial ointment, or painted with a solution of corrosive sublimate in alcohol or ether. Afterward dry cotton dressings, small and neat, such as we have often seen used with brilliant results in Sigmund's wards are recommended.

On page 69, the author states that no means are sufficient to prevent the disease, once inoculated, from becoming universal, *excepting* complete exterpation of the initial lesion.

Just here we may avail ourselves of the right of individual judgment which he concedes to all, to suggest the possibility that, where this extirpation has seemed to head off constitutional manifestations, there may have been a mistake as to the character of the lesion. It would be hard to prove the contrary, for these manifestations are the only *absolutely infallible* evidence of syphilis.

In regard to *constitutional treatment*, the greatest stress is laid upon cleanliness, hygiene and general building up. With these and suitable local treatment, 4 per cent. of syphilitic patients have only very light secondary manifestations; 10 per cent. more have but transitory and inconsequential affections of the skin and fauces, which recover with suitable local treatment; and the proportion of grave secondary forms is no greater than in patients treated constitutionally, no matter how. Other cases owe their severity chiefly to conditions inherent in the patient, and it is to them the physician must direct his attention, combating them, not as parts of, but as co-operating with the syphilis in ravaging the system. When not thus complicated, the most varied forms of syphilis frequently recede spontaneously. In fact in Sigmund's wards it is taught that syphilis is not only a curable disease, but one tending under favorable circumstances to a spontaneous cure.

This is an idea now familiar to all who have paid special attention to the disease; but it is directly opposed to the views held and taught by some most distinguished physicians.

The best time, then, for instituting constitutional and *specially anti-syphilitic* treatment is in the second period of the disease, and this is only "when several systems and organs are affected, or one very gravely, or when the nutrition or functional activity of the organism is palpably prejudiced by syphilis alone. In every period, however, and for every attack of syphilis, the most scrupulous hygienic and dietetic care, and the simultaneous attention to and appropriate treatment of other complicating constitutional affections, are indispensable."

This is the key note of Sigmund's teaching, to which he recurs again and again. Relying upon it, he says the thoroughly investigating and accurately observant physician will not employ, out of regard for the anxiety of the patient, or his own reputation, the so-called humane and unquestionably shrewd administration of small doses of anti-syphilitic remedies, in the earliest periods of the disease.

When, however, such treatment is to be employed, Sigmund recommends for the lighter forms, erythema and papula, with general enlargement of the lymphatics, the preparations, of iodine, iodide of soda, of potassa, and iodoform, as well as the proto-iodide of mercury, and, when these cannot be used, inunction of mercurial ointment, or subcutaneous injection of corrosive sublimate or the bi-cyanuret of mercury, or small doses of calomel. Of these, unless contra-indicated, he pre-

fers the iodine salts. For graver forms, with defective nutrition and strength, palpably due to syphilis alone, or widespread, pustular, papular, or squamous eruptions, preparations of mercury must be used. The French teaching that mercury is best suited to secondary, and the iodides to tertiary syphilis, he thinks is unsupported by chemical experience. For the gravest tertiary forms, gummy new formations in the skin, bones, cartilages, and nervous system, mercury must be used and alternated with iodides.

Finally, the author deprecates pushing mercury to the point of salivation. This he holds to be absolutely injurious to the patient, and a relic of medical barbarism.

A very interesting part of one of the lectures is devoted to the matter of prophylaxis, personal and general. In regard to the former, Sigmund recommends attention to details of cleanliness, with the use of disinfecting washes for suspicious cavities, and anointing the examining finger with carbolic acid ointment. In regard to public prophylaxis, he expresses a strong conviction in favor of daily examination of prostitutes. "for which, he says, are fitted only physicians who have, united with a thorough knowledge of syphilis, a trustworthy character." The effect of such police regulation, he believes to be salutary, protecting the community from disease and prostitutes from bad treatment.

In support he cites the examples of Italy and Belgium. *American Journal Med. Sciences*, for January, 1880.

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CONTINUATION OF THE ARTICLE OF M. HARDY ON THE EXAMINATION OF URINE IN DIABITES MELLITUS.

2. M. Bouchardat recommends a simple numeric and prompt method. It consists in taking the density of the urine, say 1.040, and multiplying the two last numbers by 2, say $40 \times 2 = 80$. The number 80 is multiplied by the quantity of urine in 24 hours—$80 \times 2.500 = 200$ grammes. The number obtained represents the quantity of "solid materials" eliminated by the urine. To obtain the quantity of sugar, it suffices to subtract from the number 200 the number 50, which, after M. Bouchardat, represents the normal number, almost invariable, of other solid materials eliminated from the urine, besides the sugar. Then, $200—50 = 150$ grammes of sugar.

The preceding method gave 141 grammes; the difference between the two results is not very great. This approximation would suffice in a clinical measure, if it was always as correct; unhappily the differences may vary greatly. Thus, we have with the polarimeter obtained 128 grammes, and 112 grammes by the procedure of Bouchardat; another day 225 and 150 grammes; in another patient, the one from the wards of M. Vulpian, the saccharometer indicated 360 grammes, and the method of Bouchardat, 345 grammes.

3. The dosage by the process of Fehling, or of Barreswill, is made by the so-called liquor of Fehling; 10 cubic centimeters of this liquor corresponds to .5 centimeters of glycose.

In a glass measure we place 10 centigrammes of liquor, and we pour it in a balloon, where we add 2 or 3 centigrammes of a concentrated solution of caustic soda; we add distilled water until we have filled the balloon to two-thirds, we agitate and then heat.

On the other hand we measure 10 cubic centimeters of urine in a graduated glass gauge, we dilute with distilled water until it reaches the mark 100, in order to obtain a dilution of a 10th—we agitate and introduce the liquid in a burette of Gay-Lussac, which we fill to the zero of the large branch. When the liquid of the balloon has reached ebullition, we add drop by drop the liquid of the burette of Gay-Lussac in the balloon, until discoloration of the blue liquid of the balloon; we stop when there exists no more blue tinge in this liquid, and the red tinges appear. For instance, I read on the burette which I have poured off 700.8 or 10 cubic centimeters of the liquor of Fehling=.5 centigrammes of glycose. We have then $\frac{5 \times 1000}{78}$=64 grammes of sugar per quart.

This is an excellent method; when we are familiar with it, it never gives an error beyond 2 per cent of the total result.

4. Fermentation furnishes also a means of dosing the amount of sugar; but this entails expenses of installation beyond even that of the cost of a saccharometer, and it is not in the reach of the general practitioner.

It is sufficiently interesting to occupy ourselves with other materials which exist in the urine of the diabetic, and particularly with the urea. Your patient eliminates 40 or 45 grammes of urea in the 24 hours; the one of M. Vulpian renders 51 and even 60 grammes. These numbers exceed greatly the normal of 25 grammes of those in the state of health. Then this increase of the eliminated urea is the rule in all cases of diabetes; the number decreases only at the end of the second period, when the consumption is great. But we should distinguish the increase of urea in the first period of diabetes, from that of the last period. In the first case, when the patient is still fleshy and robust, the increase is due to much eating; the amount of urea is in correlation with the quantity of materials ingested in the 24 hours. On the contrary in the second period, that of wasting, of alteration of the functions, the patient eats much less, and yet he eliminates always much urea. This urea does not come from the aliments, but of the materials of the organism itself. He does not confection sugar with his aliments as at first, but he elaborates it at the expense of his organism; he makes it with his tissues, of which the albuminoid materials subdivide themselves into sugar and urea.

Thus, at all times, when you will perceive a patient becoming thinner, whilst he renders much urea, you may conclude

that he is passing from the first to the second period, and that he is verging towards consumption, until being no longer able to make sugar, neither with his aliments nor with his tissues, he ceases to eliminate urea and sugar in appreciable quantities.

A given amount of urea existing, how are we to determine whether it be due to the aliments or tissues? When patients produce sugar from their aliments, the amount of urea is always less than in the last period, when the sugar is derived from the expense of tissues. Thus, one patient rendering 40 or 45 grammes of urea, he is still in the first period; whilst that from the wards of M. Vulpian has reached the period of wasting and eliminates from 50 to 60 grammes of urea in the twenty-four hours.

We can, in urology, determine what should be attributed to the aliments by the amount of chlorides. We render chlorides only in proportion to what we eat. The amount of chloride gives, in a manner, the gauge of alimentation.

Our patient, with 40 grammes of urea, eliminates 9 gr. .8 Na Cl. (the normal amount being 8 or 10 grammes). After his admittance in the hospital and his alimentation by an appropriate and special azotized regimen, he eliminated 12 gr. .75 of Na Cl., an amount agreeing with the richness of his food.

The second patient, with 50 or 60 grammes of urea, renders but 8 grammes, or 7 gr. .5 of Na Cl.—a greater part of his urea is derived already from the destruction of his tissues.

As to other elements, the clinical study of the urine has not as yet discovered the bearings which one might draw from their daily variations.

## PART IV.

The symptoms which our two patients presented, permitted a presumptive diagnosis of diabetes; the examination of the urine, revealing glycosuria, confirmed this hypothesis. Glycosuria is, in fact, a necessary symptom of diabetes. But we may have sugar in our urine and not be diabetic. Diabetes is characterized by other symptoms than glycosuria.

To affirm diabetes, we should first establish a *permanent* glycosuria, for sugar exists probably in a normal state in the urine, and it may appear momentarily from an alimentation composed of an excess of sweetened materials; sugar is found in the urine of pregnant women, but this is only a momentary glycosuria, which has no relation to diabetes.

In order to be able to positively affirm a case of diabetes, the sugar should exist in sufficient great quantity in the urine. Normal urine contains about 0 grains, .50 of sugar. For diabetes there should exist at least about 6, 8, 10 grammes per day. Should we find a lesser quantity, and that existing almost permanently, we should wait before coming to a positive conclusion. With 2 or 3 grammes of sugar per quart of urine, we may be at the onset of an attack of diabetes, but we must

not be too positive, for it is in reality not yet a diabetes. It is not easy to make the diagnosis of diabetes, for we do not examine the urine of whom we wish. We come to it by some particular symptom and by other precursory phenomena. It is seldom that we make our diagnosis accidentally and by the night vase of our patient; in general practice, we do not examine the urine of our patient because we are his physician. Let us study the diverse phenomena, which will enable us to make our diagnosis.

At first the characteristics of the urine will be of great use: the urine is slightly syrupy, if there is a strong glycosuria; it stiffens the clothing; sometimes you find traces of it on the clothing, especially on black or woollen cloths. You find white spots on the pantaloons. I found such upon the clothing of a magistrate, who thought that he had a venereal affection, because he perceived white spots upon his robe, which drew my attention and was the cause of my finding out a diabetic affection.

The urine is usually frothy. In the country you will often meet a vulgar sign, though still a revealing one; the flies are drawn to the urine of a diabetic, and flies and ants are found in the night vase.

Let us note a sign which formerly was almost the only one: dip your finger in the urine and taste it—once is not a habit; do not neglect this means, and your diagnosis will be made at once, and without the aid of any other reagent or analysis.

The quantity of urine is greatly increased; we find 2, 4 and 6 quarts of urine. When you meet an individual who urinates much, who cannot remain long without passing urine, and he has no disease of the bladder, no stricture of the urethra, think of diabetes. Some years ago, traveling in company with one of my friends, I noticed that at each station he was impatient to get out. I asked him if he was not diabetic; he had his urine examined and found that he was diabetic.

Polydipsia is a natural consequence of this state, in order to return to the economy the amount of water which one loses by repeated micturitions. Diabetics drink at every instant; they drink all that they find, water, wine, etc.; all drinks are good to them; they lose no occasion of drinking; at night they drink several glasses of water before retiring, and they always place water near their bed; they drink much alcoholic liquors without coming notably under its influence; they drink with impunity large quantities of wine and brandy; it seems that the alcohol merely passes through their digestive tubes and urinary channels without leaving traces of it in the organism.

Appetite is also increased; diabetics are great eaters; they eat much and often, and are never satisfied; they digest well. Vulgarly they are said to have the tape-worm; it would be more in point to say that the greedy are diabetic.

The mouth gives forth a foul breath; the saliva an acid re-

action, calling to mind that of vinegar or sugar. Some patients accuse a sweet mouth and that the tongue is stuck to the palate: that the mouth is dry, and that they have an insatiable thirst. Some, more seldom, complain of an acrid, fatty and bitter sensation. When diabetes has existed for some time, the teeth decay and fall early; they seem longer; the gums are tumid, fungous and bleed easily: the tongue is red, smooth and without elevation of the papillæ; at times muguet exists, developing with concretions of which the spores are easily recognized by the microscope.

I have at times been able to make out a diagnosis of diabetes by a different series of symptoms. The absence of venereal desire, especially in men, is a good sign of diabetes. Impotence is soon manifested, and when a young patient will confide to you that he has lost his erotic appetite, seek for diabetes. Women will often complain to you of loss of venereal appetite in their husbands, and will accuse them of having a mistress, etc.; then look for diabetes. I will relate to you, in this series of ideas, the history of an ancient professor at the College of France, L——, who was not married, and whom his friends never heard speak of women (to such a degree that he was suspected of having secret or vicious habits). Later all was explained: he had spontaneous gangrene of the legs, of which the diabetic nature was demonstrated by the examination of his urine. Diabetes causes the eruption often of an interminable series of furuncles and anthrax. Still, we should be on our guard, for often glycosuria accompanies anthrax, but it only lasts with the anthrax and disappears with it.

To admit diabetes, the proportion of sugar should be sufficiently great, and the observation should be made during a certain length of time, for, most often, glycosuria exists only momentarily. There are other exceptions, also, which give a great clue to diabetes; especially in men, particularly in those who have a long prepuce, is the appearance of herpes preputialis. The more abundant secretion than customary suffices to bring on this eruption of an eczematous nature, constituted by vesicles and ulcerations, then a kind of whitish pseudo-membranous scale upon the gland. The itching becomes then sufficiently active upon the prepuce, and the pruritus extends sometimes to the anus. This last symptom was really intolerable, for two years, in a patient who died of diabetes, and during the whole of this time he was annoyed also by the most unbearable anal pruritus.

In women, we observe vulvar erythema, as well as in the inguinal and inferior portions of the abdomen. It is common to observe a pruritus of the vulva with an acute redness, and even at times an oozing. This is not eczema, but erythematous intertrigo, of which the special selection is particularly in the external portion of the labia majora and the folds of the groin, and in fleshy women the inferior plaits of the abdomen. The

pruritus is sufficiently acute to prevent sleep. These accidents have been attributed to the contact of the urine, but they occur even when the skin has been protected from all contamination. Though unable to make out the cause, yet we must attach a certain amount of interest. More than twenty times I have established a diagnosis of diabetes, by the presence of vulvar erythema, which remained refractory to all medication habitually used in such cases.

Wasting of flesh and muscular weakness, occurring in an individual free from all pulmonary troubles, or other disease capable of explaining these symptoms, would be a sufficient index to examine the urine and look for glycosuria. The diabetic are subject to neuralgias (facial and sciatic), of a rebellious and tenacious nature, which do not yield to ordinary means, and are very lasting.

Wounds do not heal, ulcers originate from the slightest cause, and do not heal after many months of treatment. Fractures do not consolidate. Finally diabetes also predisposes to gangrene of the extremities. (Landouzy, Sr.)

Here are a great number of symptoms which may assist the physician in making his diagnosis; these details are not superfluous, for diabetes is not a disease which strikes you at the first look. It is revealed by phenomena of a light nature, circumstances often trifling, which the physician should always bear in mind.

V.

ITS MARCH, DURATION AND TERMINATION.

At the outset diabetes is a latent and insidious disease. We are never aware when diabetes has begun; weeks, months and even years, may elapse before we are attracted by a marked symptom. Patients can, with difficulty, establish the precise time, generally not within several months, when occurred the polydipsia or polyuria.

When developed, it makes itself evident by the thirst, and by the necessity of ingesting large quantities of liquids and solids. The urine becomes abundant, the wasting and weakness characterized, but not always in a marked manner: we perceive, especially among the wealthy, that they remain fat, and maintain the look of flourishing health, preserving a florid tint and well developed muscular strength. Among them we more often discover the anaphrodisiac state.

Some physicians have endeavored to distinguish the diabetes of the rich from that of the poor, in order to establish the difference which exists in favor of the first; who is able to lose much because he repairs much, while the poor workman is doomed to not restore to his organism the exaggerated expense caused by the disease.

But a particular phenomenon which is never wanting, is

genital impotency; next in order the furuncles, erythemas, troubles of vision, the soft cataracts of diabetes, &c.

The diabetic state existing, other phenomena will be observed; the mouth and gums are covered with muguet, fungosities, stomatitis; the fetidity of the breast assumes a peculiar sourish character, or recalling the sweetened savor of fruits undergoing decomposition, rotten apples, etc. The respiration is disturbed in its chemical phenomena by diabetes (Pettenköffer); the particular slowness of the respiratory functions has been observed with its necessary consequences, the diminution of the absorption of oxygen, the exhalation of carbonic acid and the vapor of water. While a healthy man absorbs 750 to 850 grammes of oxygen in 24 hours, the diabetic absorbs only from 250 to 350 grammes. The combustions are consequently decreased, and the temperature diminished. The temperature during the activity of diabetes falls from 37.3 to 37.5, the normal amount, to the number 36, 35 or even 31. It is quite important that this should be remembered with regard to the record of the temperature.

The actuality of diabetes lasts a greater or lesser length of time. The last period is that of cachexia. The patient until now, strong and fat, loses both strength and roundness; all the functions are prostrated; his appetite is disturbed; he eats less, though his losses are in the increase. His wasting or thinness becomes more marked, and marasmus sets in fatally. The quantity of the sugar diminishes then, as the sources of production are exhausted. In extreme cases there exists no sugar in the urine. But the urea does not diminish at the same time; it continues to secrete by the autophagia of the patient. The consumption attains its maximum, the body is reduced to a diaphanic skeleton, the patient can scarcely raise his limbs.

The duration of diabetes is undetermined. The acute form can bring on marasmus in a few months, especially in the poor who are not able to repair the exaggerated losses of their organism by an appropriate alimentation. But these cases are rare. Instead of terminating in a few months, sometimes in less than six months, it usually takes a chronic form and an undetermined duration, which may at times last 15, 20 and even 30 years. It is thus that, in my private practice, I have a number of clients who attend to their avocations, and who enjoy comparatively good health, apart from their glycosuria. Diabetes does not kill in itself, but it breaks down, and renders liable to various accidents which will kill.

It has been said that there is an "intermittent diabetes" existing for some months, than disappearing suddenly. More appropriately it is a chronic diabetes, of which the consequences are mitigated by an appropriate alimentation and medication. It appears anew as soon as those conditions are neglected, and from the influence of some excess or other.

As to its manner of terminating, *the diabetic may be cured*,

however often the contrary may have been asserted. I can, on my part, cite five or six cases who have had diabetes, and in whom the diabetes has disappeared since five, six and ten years. This length of time is sufficient to embolden me to pronounce the word cure. I insist upon this affirmation; may this consoling idea be propagated, and may it sustain the patient in his treatment, and the physician in the exercise of his mission.

Unhappily, this is still the exception; usually diabetes terminates in death. Death may happen by the mere fact of diabetes, by the influence of progressive marasmus, by troubles of the respiratory functions, by the breaking down and general debility. It may be sudden in the course of the third period of diabetes. The patient swoons away suddenly, without our being able to establish the lesion that produced death. It may be explained by a syncope happening doubtless on account of the granular fatty degeneration of the muscular fibres of the heart. Then we should interdict all fatiguing labor, all night watching or sitting up, all effort and emotions to the diabetic. This termination, nevertheless, is sufficiently rare; oftener he succumbs to an accidental intercurrent disease, which has a relation to the disease, or which even is at times independent. With the diabetic, whose vital resistance is so greatly diminished, the slightest disease is a sentence of death. Still, there is a certain number of affections which carry off the diabetic. Let us cite, in first order, fibrinous or catarrhal pneumonia, which kills the diabetic long before he has reached the cachectic period. The same may be said of pulmonary phthisis, for which diabetes is a predisposing cause. By its debilitating character, it predisposes those who were not subject to phthisis by heredity nor by special anterior causes, to finally become tuberculous because they are diabetic. It has been advanced that young subjects were more liable to this eventuality than the more aged; it is but simply the common law of tuberculosis. It has been thought that the poor were more liable than the rich; it is again for the same general reason, and also because the laborer can less easily supply the wants of a diabetic organism. I have met with a goodly number of rich patients with diabetes, who, nevertheless, succumbed to an intercurrent phthisis. Does diabetes impress a special course to phthisis, a special form, more grave and rapid? I do not believe that it does. What has given cause to this error? Is it that phthisis, setting in upon an economy already broken down by diabetes, makes greater progress than it would, had it attacked an as yet uncompromised constitution? It is not diabetes that produces the effect, but it is the state of the economy which predisposes.

It has also been advanced with some good grounds, that a diabetic phthisis develops tubercules only in the lungs, and not a general tuberculosis; still we should not forget that this is

also a law of tuberculosis which generalizes itself scarcely but in children and young subjects.

Gangrene of the lungs is sufficiently common with the diabetic; it is a gangrene of the extremeties of the small bronchia, with fetid sputa, general weakening and adynæmic debilitation. These lesions have been confused with those of tuberculosis; it is not tuberculosis, it is but simple ulcerations of the small bronchia with evacuation of several alveolæ, and of the elastic fibres of the bronchia. It is not a gangrene which attacks a portion of the lung at the same time, as we observe it on other occasions. The microscope will demonstrate the characteristic fibres and will lead to the differential diagnosis of tuberculosis and bronchial gangrene.

Albuminuria with all its consequences attacks, also, the diabetic; it is especially the parenchimatous nephritis, though the interstitial is not uncommon. We may well understand, under so great an activity impressed on the kidneys by the glycosuric elimination, that the inflammation has a greater chance upon this depressed organ.

These albuminuriæ are of a grave character, but they are not always mortal. I met with a case of grave albuminuria with considerable anasarca, which lasted for several months, and terminated favorably. The patient lived yet four years without albuminuria.

Anthrax and furuncles are common in diabetes; they often open the way to diagnosis; they are at times of a grave character. I have met with a certain number of deaths by purulent infection. The diffuse phlegmon occurs also from the slightest abrasion; its cure is slow and difficult. Spontaneous gangrene, especially that of the inferior members, is an endowment of diabetes. Apart from arterial interruptions, we may say that gangrene of the inferior members is generally the effect of diabetes. (Marchal de Calri and Landouzy.)

At the moment that certain diseases complicate diabetes, we perceive the diabetes disappearing, so that some physicians pretend, for instance, that albuminuria destroys diabetes. Let us rather think with Hippocrates: *Ex duobus laboribus gravior obscurat alterum.*

VI.

ETIOLOLY AND TREATMENT OF DIABETES MELLITUS.

We know that diabetes is not more common to-day than formerly; it is true that we meet with cases more frequently than before, but this is simply because physicians are better able to recognize it to-day than 30 years ago. It was in old times a very rare disease to physicians, but not a rarity to nature. The symptoms are better known to-day; formerly diabetes was classed under the rubric of phthisis, wasting disease, etc.

Diabetes is a disease of all times, but it is rare in the first

years of childhood. At the ages of five and six it is unfrequent. It is more common at the ages of thirty to fifty years. It has been wrongly asserted that it does not occur after fifty. It is met with in patients at sixty and seventy years, in whom no prior traces of glycosuria had previously existed. It is also an affection of both sexes, but with a predominance for the male sex. Griesinger has found in 235 cases 172 for the male and 53 for the female sex. Temperament does not predispose; diabetes affects the most robust as well as the most delicate. Heredity has a certain influence; we are diabetic from father to son, and from mother to daughter. I have repeatedly met several cases of diabetes in the same family. Thus I think that we should always be on our guard, when we find a member of a family diabetic or we know one of the family to be so affected.

Diabetes seems to be more common in cold and humid climates; in tropical countries negroes seem to be exempt. This may be true for those who remain in their country, but is not so in Paris, for several years ago I treated a diabetic negro.

### THE PREDISPOSING CAUSES OF DIABETES.

Sedentary and studious habits predispose; whilst in those who carry on manual pursuits which exercise their muscular system, the disease is unfrequent. It is rare in our hospitals, whilst physicians who pursue their profession in the city, may easily number ten or fifteen in their practice We may also attribute to moral influences, profound and lasting grief, fright and violent emotions, a goodly share in the predisposition to the disease.

*Alimentation.*—The disease has been attributed to a nourishment too rich in sweetened and starchy materials, to the abuse of sweetened drinks, of syrups, sweet meats, bread, etc. To admit this, we should confound diabetes with glycosuria, which is totally different. Glycosuria disappears as soon as we leave off this regimen. I have met with several examples. This is not diabetes.

Some diseases have been accused of producing diabetes. Thus phthisis pulmonaris and syphilis. It is an error; syphilis does not prevent diabetes, and reciprocally; likewise we may become phthisical, being affected with diabetes.

It is by a simple theoretical reasoning that it has been said that diabetes might be a consequence of disease of the liver, bearing in view the glycogenic function of this organ. But, with better judgment, it has been allied to gout. It is in fact one of the occurrences which gouty subjects are most threatened with. Still diabetes is less serious and yields better to treatment. It is in these cases that it has occurred that instances of so-called intermittent diabetes have been seen to alternate with a good and bad regimen. Finally, diseases of the *nervous*

*system* can induce diabetes. We are acquainted with the experiment of Claude Bernard, who provoked experimental diabetes in animals, in pricking the regions neighboring the table of the fourth ventricle. Certain cerebral diseases (tumors, sclerosis, exostosis), encroaching upon these same regions, may be capable of producing a true diabetes, with paralysis and glycosuria. Agitating palsy, hysteria, mental alienation and epilepsy have been accused of producing diabetes. This is an error. There is evidently no opposition between these diseases and diabetes, but there exists only a coincidence when they occur in the same individual.

Among the most productive causes, and upon which I more particularly insist in terminating this subject, I recall to your memory heredity, sedentary habits, moral influences and gout

*Treatment.*—It may be cured, especially if it be not of long existence. Here is a point which we should remember, so that, after having employed all means, we do not become discouraged in our undertaking.

Let us place first in order hygienic prescriptions. You will regulate the alimentation of the diabetic, in forbidding the use of all aliments containing sugar, or susceptible of being transformed into sugar. No sugar, no fecula, no sugar in his aliments or in his drinks, no syrups, sweet-meats, no cider, no sweet fruits, and notably raisins, figs, pine-apples, melons. You will on the contrary allow peaches, cherries, currants, slightly acid fruits.

You will deprive the diabetic of fecula; no bread or the least possible. A peculiar kind has been recommended, bread of gluten. This is a bad practice, in which we should place no trust. In fact, either the bread is really a bread of gluten, and is very disagreable and unsupportable, or the baker has added much flour to render it palatable. You will forbid also all pastry, and all paste in the soups, rice, maccaroni, tapioca, all starchy substances, as well as all farinacious vegetables, such as potatoes, carrots, lentils, beans, etc.

But, say you, what will remain to the diabetic? There remains yet a fine series of aliments, and you will have a good idea, when you have read the bill of fare formulated by M. Bouchardat. To cite some, let us see, for the soup (without which in France there is no good dinner) there remains the bouillon, with an egg in the soup, the cabbage soup, the potage à la bisque, &c. Among the meats, we have the choice of all white or black meats, game, fish, shell-fish. As to vegetables, we have green vegetables, chiccory, spinage, asparagus, &c.

No sweetened aliments, particularly no sugar in the tea, nor in the coffee; it has at times been substituted by glycerine. The coffee or tea is sweetened with glycerine; a manufacturer, probably a diabetic, had the good idea to fabricate all kinds of liquors with glycerine, which is substituted for sugar. We

have rum, curaçoa, anisette, &c., made with glycerine. I tasted some at one of my clients; it is not too disagreeable. Wine is useful for the diabetic; to supply the wear and tear of the organism, you will order wines of Bordeaux, Burgundy, especially red wines, but not white wines, which are diuretic. You will forbid sweet wines and the various white wines. They will drink of mineral alkaline waters, which assist digestion.

You will be rigid about the regimen, and not permit a return to usual aliments but when the glycosuria has completely disappeared and for several months.

You will add to this regimen other hygienic means, such as exercise, gymnastics, fatiguing walks, the producing of perspiration, equitation, manual labor; you will induce the patient to till his own garden, etc. Also, hydrotherapia, cold lotions, to favor cutaneous perspiration. In internal medication, let us mention, as first in order, the treatment which has produced the most benefit—the treatment by alkalies, the bicarbonate of soda, of lithia, of lime, either in the state of salt, or under the form of mineral waters. This treatment answers to the idea of Mialhe, who said that the blood was less alkaline in diabetes; it has even been said that the blood became acid, but the blood is never acid. Be it as it may, alkalies are of great utility in the treatment of diabetes, especially in the gouty, where they answer a two-fold purpose.

Some physicians have prescribed alterative medicines, iodine, iron, arsenic. I have not much faith in the last. The patient of M. Vulpian was placed under the arsenical medication for a certain length of time, but his condition has not improved. It is rather to a restorative medication that we should tend: peruvian bark, bitters, after meals, coco, columbo, wines of Bordeaux and of Burgundy. Tonics are the best assistants in the treatment of diabetes.

The disorders of the respiratory functions characterized by a lesser consumption of oxygen at times furnish particular indications. The respiration of pure oxygen is a rational theoretical idea which has sometimes been applied in practice. This method has succeeded several times, as has been observed in cases of cardiac degeneration. Five or six quarts of oxygen are respired each day. To the same end baths of compressed air, which introduce a little more oxygen in the lungs, have been recommended. All these means give, so to say, a greater amount of pabulum to the lungs; though more theoretical than practical, some good has resulted at times from this resource.

The mineral alkaline waters (of Vichy, Vals, Carlsbaden, etc.) are indicated in diabetes; but not in the third period, when the patient is already too far debilitated. They are especially useful at the onset of the disease, when it is already modified by

the regimen. Sea-baths, the sojourning on the sea-shore for one or two summer months, and during the winter in the stations of Algeria in the South, in Egypt, in the islands of Madeira, etc., are of very great advantage to diabetes.

In combining all these measures, you may expect a cure in some cases, and more often at least a notable amelioration. You may prolong at times for ten, even for twenty years, the existence of patients who, abandoned to diabetes, would inevitably have succumbed in two or three years.

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## CURATIVE INFLUENCE OF MAGNETS IN SOME FORMS OF HEMIPLEGIA, AND GASTRALGIC ATTACKS WITH HÆMATEMESIS IN ATAXIC DISEASE.

Reported by P. LUCAS-CHAMPONIERE, Ancien Interne des Hopitaux.

(*Journal de Medecine et Chirurgie.*)

M. Debove has reported to the Medical Society of Hospital the wonderful results which he has obtained in a series of cases. Until now the application of metals or of magnets in anæsthesia of cerebral lesion, or from other sources, seemed to be effective only upon nerves of sensation; but M. Debove has demonstrated that under certain conditions, and in acting upon certain forms of paralysis of motion, motal activity could be re-established. We here cite a few examples:

A man aged 35 years, having had an attack of apoplexy to which no definite cause could be established, was brought to the hospital, and recovered his mind only on the following day, but remained with an incomplete hemiplegia and unable to stand up or walk; at the same time insensible to pain upon the whole left side; had anæsthesia of the conjunctiva and of the retina; was unable to perceive certain colors. A magnet was applied to the left arm; twenty minutes after cutaneous sensitiveness began to return, perception of colors returned little by little, and the strength increased rapidly in the left side; about an hour afterwards the patient could walk without support, with ease, but, however, limping. On the following day, finding that he was cured, he left the hospital, and no news was received of him.

A woman aged 62 years, after an attack of apoplexy, remained with complete anæsthesia of the right half of the body, implicating the organs of sense and a contraction of the inferior and superior members of this side, accompanied with choreic disorder of motility; this is the affection that M. Charcot has described under the name of hemichorea post-hemiplegic. Strength was much diminished also upon that side. The application of a magnet upon the right arm completely removed in an hour the anæsthesia, the contraction, the chorea

and the paralysis of motion. A relapse occurred after a few days, but a new application of the magnet was as successful as the first, which this time seemed to be lasting.

Another patient, afflicted probably with a cerebral tumor of syphilitic origin, presented an anæsthesia of the whole left side with hemiplegia. The result obtained was more slowly produced than in the preceding cases; moreover it was, so to say, only produced by fractions, and necessitated frequent applications of the magnet, and upon various points of the body, to produce a complete result. The anæthesia and hemiplegia were completely removed. Finally, in a last trial, the patient upon whom the trial was made was affected with saturnine hemiplegia with hemianæsthesia. With this patient the application produced at first but a temporary cure, and did not maintain itself beyond a few hours. M. Debove made then an application of 24 hours duration, and renewed the application an hour each morning. From this moment the cure persisted, and all symptoms led to the supposition that it will be maintained. The procedure in these two last cases differs greatly from what was made in the first trials; in fact it happens often that, if we do not succeed at the first attempt of an hour's trial, the experiment is put aside. M. Debove, on the contrary, insists much upon the fact that, in many cases, it is necessary to prolong the action of the magnet for several hours, if not for several days.

We should be warned that, in most cases, a sufficiently serious phenomenon is produced, at times even excessively painful to the patient; this is an extremely painful cephalalgia, which has even persisted a long time after a definitive cure of the paralysis. An other important observation is, that in no case did the phenomenon of transfer produce itself; for we know that, whilst the production of this phenomenon is the rule in hysteria, it is entirely exceptional, on the contrary, in cases of hemi-anæsthesia of cerebral origin.

It is important here to explain the modus operandi, that we should make use of to obtain this result. According to M. Debove, all means susceptible of reëstablishing sensitiveness, such as metallotherapia, faradic currents or all other processes which might be called *esthesiogene*, could be utilized. But of all means, the magnet being the most handy and the most sure, it is to it that we should give the preference. M. Debove takes a large magnet of 25 to 30 kilogrammes, and places the arm of the patient at a few millimeters distance from the poles. The application may last a greater or a lesser length of time, be repeated more or less often, as has been mentioned above; it may be necessary that it should be applied successively to the various anæsthetized portions of the body: these are conditions which vary, so to speak, with each patient.

We perceive by this succinct report, that we speak of a therapeutic means absolutely new and extremely important. From

these facts, and from a series of others which have been observed by M. Debove, the use of the magnet produces a certain result, not only for the restoring of lost motility of a few days, but even in cases where the paralysis has existed for a few years. But one condition is necessary for the production of this action: it is that the paralysis be accompanied by loss of sensation; the trials upon paralyses purely of motion have always been unsuccessful. For Mr. Debove, in fact, there exists a certain number of paralyses of motion, which are allied to the paralysis of sensation. These cases are, it is true, relatively speaking, not common; but are still sufficiently frequent to excite a considerable amount of interest to be able to cure them with as great a certainty.

We know that, in a certain number of cases, locomotive ataxy is long manifested by various disorders before ataxic phenomena of a pure type are produced. M. Debove reported recently to the Medical Society of Hospital the history of a woman in whom there never occurred disorders of locomotion, and who still was really ataxic, as was demonstrated by the microscope. The only phenomena which were manifested in her case, were flying pains of the inferior members, which existed since five years, and a sense of constriction of a quite painful nature at the base of the thorax, and a drooping of the eyelids; every other sign of ataxic disease was wanting. But these signs in themselves were sufficiently characteristic of the disease to enable one to make out the diagnosis of ataxia; and she having died of an intercurrent affection, special lesions of the spinal marrow indicated ataxic disease. Yet these lesions were perceptible only by means of the microscope, and without the aid of this instrument one would have doubted the presence of any lesions. M. Debove has actually in his wards a patient whose history is as interesting as the above. This man commenced more than four years ago to suffer with very painful gastralgic attacks, which were renewed about every fifteen days. These phenomena occurred in the midst of excellent health, without any other stimulus; but yet already, a short while before, he had suddenly lost the sight of the right eye; the first attacks were not usually accompanied by vomiting, but since 2½ months the vomitings had returned, and had aggravated the symptoms and were repeated oftener. Finally, four months ago, this man, until then a great walker, discovered some disorder in his locomotion, which soon assumed perfectly marked symptoms of ataxic disease; at this time violent pains also set in in his inferior extremities; at last, in the beginning of last September, the vomitings, which were not until now of any peculiar character, contained a great deal of blood; and the patient reports that he then rendered from four to six pints. From this period the hæmatemesis, though less in amount, was renewed several times, and since his entrance into the hospital. The course of

his disease led to many errors; it caused the physicians who saw him to vary their diagnosis. We perceive from the start that, for nearly five years, phenomena common to ataxic disease, such as the loss of the sight of an eye, and gastralgic attacks, were produced without the least disorder of motility. There was here also a phenomenon which, if before recognized, has at least been so quite seldom; we refer to hæmatemesis. In fact authors, in their description of gastralgic attacks in ataxic disease, speak of bilous or mucous vomitings, containing at times sanginolent materials, but true hæmatemesis is quite unfrequent. Thus in this case ulcer of the stomach had several times been suspected. Yet M. Debove did not hesitate, after interrogating the patient, to diagnose it as one of ataxia, and this only by hearing the cries of pain from this man, cries which have something of a characteristic nature; for the pain of gastralgic attacks of ataxic disease are more severe than those which we meet in all other forms of gastralgia, more intense also than those which exist in the most painful forms of ulcer of the stomach. Here, however, the diagnosis had become comparatively easy since the disorders of locomotion had set in, but even if, during the first attacks, these two facts had been connected, the reproduction more and more frequent of attacks with intense acuteness of pain and sudden loss of sight on one side, the diagnosis of ataxic disease at its onset could have been made with some certainty.

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### MAMMARY TUMORS—THEIR DIFFERENTIAL DIAGNOSIS.

Dr. D. S. Adams, of Manchester, N. H., read before the New Hampshire Medical Society, June 17, 1879, a most excellent paper on this subject, of which we make a full abstract:—*Va. Med. Monthly.*

The mammary gland is surrounded by a thick layer of adipose tissue, held in position by reticulated connective tissue, which penetrates into the interior, subdividing it into lobes; but in the ultimate gland structure, and in the nipple and areola, there is no fatty substance. In this tissue, deep seated, at the inner and outer border, are lymphatic glands—the inner opening into the anterior mediastinal glands, the outer communicating with the axillary glands. These structures are derived from the middle germinal layer. The ultimate gland structure consists of small vesicles, which are united to form lobules, which are grouped to form lobes, each of which has a duct leading to the nipple. These glands are formed by the vesicular endings of branched ducts, and they, together with the ducts, are formed of connective tissues lined with a single layer of epithelium, which is greatly increased during lactation, thrown off into the gland and, undergoing fatty degeneration, forms a part of the milk. They are de-

rived from the external germinal layer. Surrounding the terminal ducts, is a spindle-celled tissue, which separates the limiting membrane from the stroma. This, I believe, is a mongrel tissue formed between the two germinal layers, and from this, I think, the spindle-celled sarcomata originate.

The nipple is composed of the ducts, united by connective tissue with blood-vessels, lymphatics and nerves. Upon the surface and beneath the cuticle, is a layer of pigment cells. The connective tissue contains a large quantity of contractile fibre, which, when excited to contract, produces a rigidity of the whole organ. Within the areola are situated hair follicles and sebaceous glands; hence, sebaceous tumors are occasionally developed in this region.

The 2d, 3d, 4th and 5th intercostal branches of the internal mammary artery usually convey blood to the internal segment of the breast; a branch from the axillary usually supplies the upper and outer portion, and the inferior and lateral regions receive a few branches from the intercostal, which pass with the veins through the middle intercostal foramina. The lobules have a distinct system of capillaries of their own, forming a network around the alveoli, which are comparatively inactive during the resting period of the breast. The veins usually accompany the arteries and terminate in the internal mammary and axillary trunks. A peculiar arrangement of the areolar veins has received the name *circulus venosus areolæ*.

The breast, and skin covering the breast, are supplied by filaments from the anterior branches of the 4th and 5th cervical nerves. Filaments from the posterior branches of the same nerves join with others from the superior dorsal nerves. Filaments from the middle and anterior intercostal branches of the anterior division of the 2d, 3d, 4th and 5th nerves of the dorsal plexus supply the breast, and skin over it, chiefly. A minute examination demonstrates the association between the 2d intercostal and filaments supplying the skin of the inside of the arm and axilla; also, the same parts and the skin about the shoulders from the 3d, and the skin about the scapula from the 4th and 5th. (Holmes.) These nerve communications explain the extensive pain in hyperæsthesia of the breast.

I shall be obliged to deal with three conditions of the breast that are not, strictly speaking, tumors, on account of their symptoms so closely resembling those of tumors.

By *Galactocele*, I understand an obstruction of the duct, whereby there is an accumulation of milk and dilatation, or rupture of the gland or duct, which forms an encysted milky tumor, in one of the lobes of the breast.

*Congestion with milk* is caused by the absence of the more fluid portion of the milk, on account of which the solid portion accumulates in the ducts and glands, producing a lobulated tumor of stony hardness.

*Chronic Encysted Abscess* is the result of a low chronic inflammation, which results in the formation of pus, which is surrounded by a thick, dense, fibrous wall. This frequently reaches a certain size, and then remains stationary for months.

*Adenoma* is always in connection with secreting glands, and is the result of increased growth of the epithelium lining them, the layer of which is crowded inward by a new layer forming under it; and failing to undergo the fatty metamorphosis, fills up and dilates the gland, by which it may form new gland structure in some cases. The epithelial growth is always confined to the inner potion of the gland, and does not infect the surrounding tissue.

*Adenoid Cyst* is the result of the same process as above, occurring in one terminal gland, or as the result of the breaking down of the intervening tissue between several glands—the tissue softening to form a mucous mass.

*Soft Carcinoma* is the result of an increased growth of the epithelium; but instead of being thrown off into the gland, it infects the leucocytes as they approach the epithelium through the lymphatic lacunæ, causing them to develop into epithelium, thus blocking up the immigration of the leucocytes, and filling the surrounding tissue with epithelial growth.

*Hard Carcinoma* in the result of the same process, with an increased growth of fibrous tissue. The cells of both these, therefore, lie in the lymphatic lacunæ; and an abundance of cells occurs in the soft, whereas there is a limited number in the hard.

*Sarcoma.*—The spindle-celled, in my opinion, originates in connection with the spindle-celled tissue which separates the limiting membrane of the glands from the stroma. The round-celled has its origin in connection with the lymphatic spaces in the connective tissue, by an increased growth of the endothelium lining them, together with an increased growth of the connective tissue.

*Cysto-sarcoma* is the same process—only the endothelial growth takes place in one of the lymphatic spaces dilating it, or in several, breaking down the intervening tissue between them—the endothelium softening in the former into a serous fluid; in the latter, into a cloudy serous fluid. And if a gland be implicated, in the latter, into a muco-serous fluid, in which case the tumor may possess both round and spindle-celled tissue. The first of these is the simple sero-cyst of some authors.

*Fibroma* is a simple increase of the connective tissue, without the infiltrating cells, confined to a limited portion of the breast, and is exceedingly rare.

*Lipoma* is an encysted fatty tumor, arising in connection with the adipose tissue of the breast.

*Neuroma* arises in connection with the nerve tissue, producing a bulbous enlargement of the nerve, and is composed of newly-formed nerve-fibre and ganglionic cells.

*Enchondroma* and *Osteoma* probably take their origin in connection with the connective tissue, or as a degeneration of some of the other tumors. But little is known in reference to their origin in this situation, on account of their rarity.

*Hydatid Cyst* explains itself, and presents the ordinary characters of deep-seated cyst.

Can one form of a tumor begin in the breast, and after a time change, or take on another form? I think this sometimes occurs; for instance, an adenoma may be confined for months to the inner portion of the gland, when, from some renewed action, it blocks up the immigrating leucocytes, and infects the surrounding tissue, and results in a *soft carcinoma.* Also the sarcoma may form independently of the gland, and later involve the gland so as to produce a mixed tumor; or most any of the hard tumors may undergo mucous or serous degeneration, forming a cyst; or a cartilaginous or an osseous growth may become an *enchondroma* or *osteoma.*

These tumors are auto-inoculable just in proportion as their epithelium is taken up by the lymphatics; consequently the soft carcinoma is the most dangerous, the hard next, and the spindle-celled sarcoma next, provided they all remain in the system the same length of time. Broken down epithelium is more poisonous when taken into the blood than any other tissue in the system. I do not consider the round-celled sarcoma, or any of the other tumors above enumerated, as auto-inoculable, unless the glands and epithelial tissue become involved in them.

The adipose tissue is a great hindrance to our physical examination, for the most important tumors are usually deep-seated, and the thick layer of fat so masks them in some places that it is utterly impossible to tell whether they are smooth and hard, nodulated, elastic, single or multiple. Then the more characteristic symptoms do not appear till late in the disease, and the surgeon that waits for infection of the surrounding glands, for the retracted nipple with the implication of the skin over the breast, or for the adhesion of the mass to the subjacent tissues, is only allowing his patient to slip beyond his reach into the stage of general infection, for which there is no help. But there are some points that aid us very much in our diagnosis, especially in distinguishing between carcinomata and other tumors.

First among these, probably, is age, for about 95 per cent. of all carcinomata of the breast begin after the age of thirty; so if the patient be under that age, the chances are largely against carcinoma. The majority of the cases of sarcoma, and nearly all the fibromata, begin after the age of thirty, while about sixty-two per cent. of the cases of adenoma begin under the age of thirty. But in connection with this we must bear in mind that years and days do not truly represent the age of the patient, as it should be considered here; for

one woman may be older at twenty-five than another at thirty-five, and is, therefore, more liable to have carcinoma; consequently, the question should be asked, "Is this woman prematurely old, or postmaturely young?"

Next: Was this bunch developed during the passive state of the breast, or during its functional activity? If developed during its functional activity, it is probably either galactocele, congestion with milk, or chronic abscess, although the latter may not occur for months after a delivery. It is only in cases of abortion where the woman tries to conceal the fact are we apt to be misled on these diseases; but general activity of local circulation, fulness of the breast, enlargement of its veins and darkening of the areola, with more or less activity of the other breast, will usually enable us to decide.

If developed during the passive state of the breast, did it follow active inflammation, or has the breast apparently been free from inflammation? If the result of the former, it is probably an abscess or benign tumor, for the more active forms of inflammation rarely result in the malignant tumor.

Again: Is it a solid tumor or a cyst? In some cases, we are able to decide this by the elastic feel of the tumor, but more commonly when the tumor is deep seated we are unable to detect any elastic feel; but, fortunately, puncture never fails to decide, and when punctured with the harpoon, if it proves solid, you can remove a piece for the microscope. This instrument ought to be used where there is any doubt.

In the physical examination of the breast, we are often aided very much by placing the patient in a recumbent position, with the breast free to tip one way or the other, or to settle back on to the chest; for frequently it will divide, as it were, over the tumor, leaving that more prominent and nearer the surface than while standing. Is the tumor single or multiple? When multiple we can semetimes roll one tumor on the other. If multiple, the worst it can be is sarcoma, for carcinoma is never double. Is the nipple attached to the tumor or free? By pressing the breast forward over the tumor, and with the fingers of one hand pressing the tumor back against the chest, while we pull upon the nipple with the other hand, we are frequently able to decide by the fixed condition of the nipple. If it be attached to the tumor, the tumor is in connection with the glands or ducts; if free, it cannot be in connection with them on account of their close anatomical connection with the nipple. Is there any discharge from the nipple, or can any be pressed out? If there can be, we know it contains fluid within the glands or ducts. Is it painful, or not? We should let the patient describe the pain in her own language. If the pain be lanci-

| Galactocele. | Congestion with Milk. | Chronic Encysted Abscess. | Adenoma. |
|---|---|---|---|
| 1. During the child-bearing period and the result of pregnancy. | 1. During the child-bearing period and the result of pregnancy. | 1. During the child-bearing period usually and generally the result of pregnancy. | 1. Majority of cases under the age of thirty. |
| 2. No pain. | 2. Some dull pain sometimes, but not common. | 2. No pain. | 2. If painful, pain dull and most severe at catamenial period. |
| 3. System not disturbed. | 3. System considerably disturbed. | 3. System not disturbed. | 3. System not much disturbed. |
| 4. Breast considerably enlarged. | 4. Breast very much enlarged. | 4. Breast not much enlarged. | 4. Breast slightly enlarged. |
| 5. Local circulation active in both breasts. | 5. Local circulation active in both breasts. | 5. Local circulation some increased in both breasts. | 5. Local circulation some increased in the breast affected. |
| 6. Tumor quite a size, but if it has been in the breast long it is not as large as it was, on account of the more fluid portion being absorbed, but harder. | 6. Tumor large and lobulated. | 6. Usually small and irregular in shape. | 6. Tumors small and nodulated. |
| 7. May give an elastic feel or fluctuation, or be hard. | 7. Stony hard. | 7. May give an elastic feel, otherwise hard. | 7. Moderately hard. |
| 8. Single. | 8. Single. | 8. Single. | 8. May be single or double. |
| 9. Nipple may or may not be connected with the tumor. If a simple dilatation has taken place it is connected. If a rupture it may not be. | 9. Nipple always connected with tumor. | 9. Nipple may or may not be connected with the tumor; usually is. | 9. Nipple always connected with tumor. |
| 10. Freely movable. | 10. Not freely movable. | 10. Not freely movable. | 10. Freely movable. |
| 11. Skin distended over it. | 11. Skin distended over it. | 11. More or less œdema of the areola. | 11. Skin normal unless tumor has reached considerable size. |
| 12. Growth rapid; Tumor fills every time the child nurses, then gradually subsides. | 12. Growth rapid to a certain size then stationary. | 12. Growth slow. | 12. Growth slow under the age of thirty after that rapid. |

# DIAGNOSIS OF MAMMARY TUMORS.

| Soft Carcinoma. | Hard Carcinoma. | Sarcoma. | Primary Cyst. |
|---|---|---|---|
| 1. Very rare under the age of thirty. | 1. Very rare under the age of thirty. | 1. Majority in patients over thirty. | 1. At any age above puberty. Majority under thirty. |
| 2. May or may not be painful, not usually painful till skin is implicated, then pain severe and cutting, running to shoulder and down the arms. | 2. Usually not painful, till skin is implicated, then pain severe, cutting or stabbing, running to shoulder and down the arm. | 2. May or may not be painful. | 2. Not painful usually. |
| 3. System considerably disturbed. | 3. System not much disturbed. | 3. System usually some disturbed. | 3. System not disturbed. |
| 4. Breast some enlarged and enlarges rapidly. | 4. Breast normal at first. | 4. Breast slightly enlarged. | 4. Breast appears normal. |
| 5. Local circulation some increased, in breast affected. | 5. Local circulation apparently normal. | 5. Local circulation slightly increased in breast affected. | 5. Local circulation normal. |
| 6. Tumor quite size, irregular, and not well defined. | 6. Tumor small and smooth or nodulated. | 6. Tumor quite size and irregular. | 6. Tumor small and may be nodulated. |
| 7. Usually soft with a doughy feel. | 7. Tumor hard. | 7. Tumor a little soft | 7. May give an elastic feel, otherwise hard, and may be finely nodulated. |
| 8. Single, but lobulated feel may give the feel of a multiple tumor, but you cannot roll one tumor on the other. | 8. Single. | 8. Usually single. | 8. Frequently multiple, and when so, can readily roll one tumor on the other. |
| 9. Nipple always connected with tumor. | 9. Nipple always connected with tumor. | 9. Nipple may or may not be connected with tumor. | 9. Nipples may or may not be connected with tumor. |
| 10. Freely movable at first, but soon becomes adherent. | 10. Freely movable at first. | 10. Not freely movable. | 10. But little movable when deep seated. |
| 11. Skin normal at first but implicated early. | 11. Skin normal 'til late in disease. | 11. Skin normal. | 11. Skin normal. |
| 12. Growth rapid. | 12. Growth slow. | 12. Growth usually rapid. | 12. Growth slow and may remain small for years, then grow very rapidly. May have a vegetation spring from its wall, forming the compound cyst. |

| Galactocele. | Congested with Milk. | Chronic Encysted Abcess. | Adenoma. |
|---|---|---|---|
| 13. Nipple never retracted. | 13. Nipple usually retracted or embeded in the breast. | 13. Nipple usually flattened or retracted | 13. Nipple projects. |
| 14. Surrounding glands never implicated. | 14. Surrounding glands never implicated, but may be some swollen. | 14. Surrounding glands may be some swollen. | 14. Surrounding glands never implicated. |
| 15. Superficial veins enlarged in both breasts. | 15. Superficial veins enlarged in both breasts. | 15. Superficial veins may or may not be enlarged. | 15. Superficial veins usually enlarged. |
| 16. Puncture; cheesy mass or cream. | 16. Puncture, cheesy mass or cream. | 16. Puncture, pus. | 16. Puncture; solid, |
| 17. Microscope, milk or fat globules, with more or less epithelial cells undergoing fatty degeneration. | 17. Microscope the same as preceding. | 17. Microscope, pus corpuscles. | 17. Microscope, epithelial cells if taken from the interior of the acini, otherwise may get connective tissue. |

nating, darting or stabbing, extending up to the shoulder and down the arm, it points strongly to hard carcinoma; but if it be free from pain, it is no guarantee against carcinoma, for carcinoma may exist without pain. Learn if the patient has been reading about cancer, for frequently after reading the symptoms she will imagine the disease, and give the doctor the full list of symptoms.

In the following table I have classed all the symptoms as one, as there is nothing to distinguish one from another except the microscopical characters of the walls, and its position in reference to the gland; thus, if entirely free from the gland, it must be a sarcomatous cyst. Also, I have omitted fibroma, lipoma, neuroma, enchondroma and osteoma, as they are all exceedingly rare, and the last two are frequently the result of change in some other tumor.

*Fibroma*, in its earlier stages, has all the external characteristics of hard carcinoma, and can only be distinguished by the microscope; even this is very difficult in some cases.

*Lipoma* is entirely free from the gland, and presents the microscopical characteristics of adipose tissue.

*Neuroma* is usually very small, and may be very painful, while the surgeon is unable to find any tumor whatever. The tenderness of the nerve affected, when pressed upon, will be of some diagnostic value.

| Soft Carcinoma. | Hard Carcinoma. | Sarcoma. | Primary Cyst. |
|---|---|---|---|
| 13. Nipple projects at first, but soon becomes retracted. | 13. Nipple normal at first, may or may not be retracted later. | 13. Nipple may or may not be retracted | 13. Nipple may or may not be retracted; is not usually. |
| 14. Surrounding glands soon implicated as the growth is rapid. | 14. Surrounding glands not implicated till late in disease | 14. Surrounding glands never implicated. | 14. Surrounding glands never implicated. |
| 15. Superficial veins enlarged early. | 15. Superficial veins not enlarged till late in disease. | 15. Superficial veins may or may not be enlarged. | 15. Superficial veins may or may not be enlarged. |
| 16. Puncture; tumor soft, but no discharge. | 16. Puncture; solid. | 16. Puncture; solid. | 16. Puncture; fluid. |
| 17. Epithelial cells arranged in alveoli with no connective tissues separating alveoli separated by well marked connective tissue bundles. | 17. Same as soft, except more connective tissue and less cells. Arrangement of cells the same. | 17. Spindle-shaped cells characteristic. If it be round-celled, the cells resemble epithelial cells. | 17. If primary, the walls are simple connective or gland tissue. If secondary, same character as tumor from which it was formed. |

From the table, we learn that retraction of the nipple is common to all tumors which implicate the glands or ducts, and is the result of inflammation and contraction of the connective tissue surrounding the ducts. This does not always take place; retraction is more or less accidental.

Hardness is common to all tumors of the breast, except soft carcinoma and sarcoma, and it may occur in connection with sarcoma. All the tumors may be irregular in shape, giving a nodulated feel. Later in the disease, if it be carcinoma, the severer symptoms become intensified; hence, it is not difficult to determine that our patient is beyond help; so our knowledge is of no benefit. But, fortunately, the harpoon and microscope enable us to determine the character of these tumors in their earlier stages, and always ought to be used, and the sooner they are used the better; but my observation would tell me that they are not in general use. The use of the harpoon cannot possibly do any harm in connection with these tumors; for, if it prove a benign tumor, or cyst, the inflammation following its use will frequently cure it. When the surgeon has no harpoon, a narrow bladed knife and small pair of forceps will answer the same purpose; and if local anæsthesia be used, the operation is painless.

## HÆMORRHAGE FROM THE GENTIAL ORGANS DURING PREGNANCY AND PARTURITION.

A discussion on this subject was opened with the following paper:

*Hæmorrhage from the Organs of Generation during Pregnancy and Parturition.* By A. V. Macan, M. B. (Dublin).—The points which the author proposed for discussion were: 1. Menstruation during pregnancy; 2. The symptoms or conditions that justify, in a case of threatened abortion, the giving up of all further attempts at saving the ovum; 3. Imperfect abortion, and its treatment; 4. The treatment of placenta prævia; 5. The prevention and treatment of *post partum* hæmorrhage, including that described by Gooch as "a peculiar form of hæmorrhage." After giving briefly the views generally held about menstruation during pregnancy, the author noticed at some length the opinion held by Professor Spiegelberg of Breslau, that all so-called menstrual discharges were nothing but hæmorrhage from pathological causes, which, as was often noticed also in the unimpregnated condition, had taken an aperiodical type. There was no evidence to show that ovulation went on during pregnancy; and, therefore, as he believed in Bischoff's theory of the dependence of menstruation on ovulation, he held that menstruation did not occur during pregnancy. Indeed, the changes in the mucous membrane of the uterus that accompanied menstruation were quite incompatible, as he thought, with the continuance of pregnancy. The second question involved the determination of the life or death of the ovum; or whether the mother's life were in actual danger from the continuance of the pregnancy (hæmorrhage, excessive vomiting, etc.); or her condition such as to render the continuance of the pregnancy very doubtful (cholera and the acute axanthemata); or, finally, whether uterine action had gone on so far that it could not be stopped, or had already led to rupture of the membranes, or to such extensive detachments as to render it probable that the ovum would soon perish, even if it were not at once expelled. He considered that the determination of these facts, in individual cases, was one of the most difficult questions the midwifery practitioner was called on to decide; and quoted a case, given by Scanzoni, to illustrate how the ovum might sometimes survive the most numerous and varied perils. Some authorities held that the discharge of altered (decolorised) blood-cots was evidence of the death of the fœtus; but he (Dr. Macan) had lately, through the kindness of the President, had the opportunity of examining a case in which this symptom was present, and, notwithstanding, the fœtal heart was heard a fortnight subsequently. The term "imperfect abortion" was applied to those cases where all the ovum was not expelled at the same time, but when part (placenta or membrane) remained in the uterus. He drew atten-

tion to the great improvements that had lately been introduced in the treatment of such cases by the use of Thomas's blunt wire curette, or the scoops that Simon of Heidelberg introduced for the removal of cancer. By this method, the painful and tedious operation of dilating the cervix might be often avoided. The question of the treatment of placenta prævia was one which, above all others, would, he hoped, be benefited by discussion. There would never be anything like unanimity on the subject till the knowledge of the true changes that took place in the cervix during pregnancy and parturition become more widely spread; not only the fact that the cervix was not taken up gradually into the body of the uterus during the latter months of pregnancy, but more especially that the manner in which the cervix became obliterated was very different, according as the patient was a primipara or a pluripara. He thought the term "cervical zone," as used by Dr. Barnes, was very likely to lead to its being confused with the cervix itself; and quoted passages from Dr. Barnes to show that even he was guilty of thus confounding them. The placenta was never found attached to the cervix, except in some rare cases, when this condition led to early abortion; and, therefore, it was not correct to speak of the placenta being detached from the cervix as the latter became retracted. Moreover, instead of the interior of the cervix becoming smaller during the dilation of the os, the fact was that it became immensely distended in every direction. In primiparæ, the length of the cervix was, on an average, doubled during labor, as might be seen by the beautiful plate of Braun's which Dr. Playfair reproduced as the frontispiece to his second volume; and its diameter was increased from that of the finger, or even less, to that of the head of the fœtus at full time. The placenta, when partially prævia, was inserted into the lower zone of the body of the uterus, to one or other side of the inner os. There could be no doubt that the insertion of the placenta into any part of the circumference of the inner os caused that portion of the uterus to which it was attached to be less ready to dilate than the rest of the circumference, which was not in the same way tied down. It seemed, therefore, plain that, at all events in a case of partial placenta prævia, the site of the placenta would not be so distended as the rest of the circumference of the inner os. In fact, the same thing took place, though in a much less degree, as in a case when carcinoma involved a portoin of the circumference of the cervix; viz., the dilatation took place at the expense of the sound portion. If this were true, Dr. Barne's method of separating the placenta from its attachments, as far as the fingers could reach, could hardly be the right one. Again: the mechanism of the separation of the placenta from around the margin of the inner os during labor was almost universally misunderstood. For, till the membranes were ruptured, the effect of an uterine contraction was

to detach the whole lower segment of the ovum from the uterus and force it into the cervix, the margin of the inner os being at the same time drawn upwards by the contraction of the fundus. Of course, when the placenta formed a portion of the lower segment of the ovum, it must slide downwards more or less over its seat of attachment to the uterus. Once, however, the membranes were ruptured and separated to a considerable extent from the lower margin of the placenta, the ovum was no longer forced downward *en masse*, and the placenta was free to move, upwards and outwards, along with the lower segment of the body of the uterus. This at once explained how rupture of the membranes in placenta prævia was often followed by a cessation of the hæmorrhage. Again: it was known that, at the occurrence of each pain, the circulation was almost entirely arrested in the site of the placenta, and the uterine souffle disappeared. Ergot caused such a tonic contraction that the circulation was permanently interferred with, and the child died, if not suitably delivered, from asphyxia. Hence, if ergot acted properly, it ought almost to stop all circulation in the placental site, and thus prevent it in cases of placenta prævia or accidental hæmorrhage. If presentation were complete, one had only to detach the placenta from one or other side of the inner os, to tear the membranes freely away from its edge, and the case, for all practical purposes, became one of partial placenta prævia. This was the great treatment of placenta prævia: but, if once rupture of the membranes, or separation of one portion of the placenta, in a case of complete presentation, were impracticable, then we must plug till one or both became possible. It was not requisite to dwell at any length on the prevention and treatment of *post partum* hæmorrhage; but the author would draw attention to that form which was due to rupture of the soft parts, more especially one or other crus of the clitoris, and to the peculiar form of hæmorrhage described by Gooch, which was simply due to alternate contraction and relaxation of the uterus. The newest points in treatment were the use of ergot subcutaneously, the injection of hot water at 110° to 120° Fahr. (not *warm* water) into the uterus to arouse it to contract, and use of the various diffusible stimuli subcutaneously—such as ether, camphor, musk, or brandy—the first of which was introduced into this country by the author.

*On the prevention and Treatment of Post Partum Hæmorrhage.* By Thomas More Madden, M. D., M. R. I. A. (Dublin). In a long and tolerably extensive obstetric experience in hospital and private practice, Dr. More Madden had seen but two fatal instances of *post partum* hæmorrhage. With the advancement of our art, such cases had gradually become less frequent; and would probably be altogether unknown in the more perfect obstretric practice of the future. The author discussed *seriatim* the causes of *post partum* hæmorrhage, and the treatment

required by each of these. Having dwelt on the constitutional conditions predisposing to flooding, and the preventative measures by which this might be warded off, even in those who had been habitually subject to this accident on former occasions, he considered the causes of flooding and the management of labour, so as to prevent subsequent inertia or irregular contraction of the uterus. The ill effect, in this respect, of the premature application of the forceps before the full dilation of the os uteri, and also the production of hæmorrhage as the result of undue delay in the second stage, were next referred to. During labour, when there was any reason to anticipate flooding, the preventive measures recommended by the author were: the rupture of the membranes in the first stage; the use of stimulating enemata of a strong infusion of ergot, or the hypodermic injection of ergotine, in the second stage; and a firm unremitting manual pressure over the fundus uteri, from the time the child's head escaped from the vulva until the completion of the third stage, which should never be hastened by traction on the cord, and the permanent contraction of the uterus was secured. In nineteen cases of flooding, the solution of perchloride of iron was resorted to; in eighteen of these, the hæmorrhage was thus arrested, and in one instance it failed. Dr. Madden, however, considered that the ordinary mode of using this styptic—viz., by a syringe passed up to the fundis uteri—was a very hazardous proceeding, and exposed the patient to great and needless twofold danger of death from embolism or from peritonitis. He, therefore, recommended instead the direct application of the strong liquor ferri perchloridi to the bleeding vessels by a sponge soked in this fluid, and carried up by the hand into the uterus, and retained there until a firm contraction was produced. Some cases was referred to in which hæmorrhage, that had resisted all other treatment, was thus arrested; and Dr. Madden, therefore, regarded this as the most effectual method of treating flooding. At the same time, he admitted that it was not free from danger, or even to be adopted without grave necessity. Some of the other remedies employed in the treatment of *post partum* hæmorrhage, including the hypodermic use of ergotine, galvanism, and cold and hot injections, were referred to. The treatment of collapse from flooding by brandy, opium, stimulating enemata, hypodermic injection of sulphuric ether, and transfusion, was considered. Dr. Madden related a case in which a patient, apparently at the last extremity, was rescued from death by the subcutaneous injection of ether, which he regarded as being in many instances a substitute for transfusion. The latter operation was, he considered, destined to fill an important place in the future practice of midwifery. But, as yet, no method of transfusion had been suggested which met the requirements of what, to be useful, should be a generally feasible as well as an effectual operation. Transfu-

sion was required for a most serious emergency that might suddenly occur in practice: namely, in cases of collapse from flooding. Therefore, its success should not be altogether dependent on the possession of exceptional surgical skill, as some of its modern advocates insisted. On the contrary, it should be within the reach of every properly educated midwifery practitioner, who might, at any moment, and perhaps in a remote district, under unfavorable circumstances, meet with a case in which this operation was required. In these respects, transfusion was as yet far from that perfection at which it must one day arrive; and, however theoretically improved in a physiological point by modern authorities, practically speaking its success was yet hardly greater than was the case under the ruder methods employed by Dr. Blundell and others, for the same purpose, half a century ago.

*The Treatment of Post Partum Hæmorrhage by the Intra-uterine Injection of Hot Water.* By William Walter, M. A., M. D. (Manchester).—Since the method of treating *post partum* hæmorrhage by the injection of hot water was brought under notice by Dr. Atthill early in 1878, Dr. Walter had treated in this way eleven cases in the Manchester and Salford Lying-in Hospital. The temperature of the water used ranged from 110° to 120° Fahr.; and the utmost care was taken that the tube (Haye's) reached well up to the fundus; and that there was afterwards no impediment to the escape of the water from the uterus. The results in the eleven cases—particulars of which were given—led Dr. Walter to the conclusion that the hot water treatment offered some advantages, in being generally accessible and not disagreable to the patient; but that, as a means of contracting the uterus, it was, in his experience, not to be relied on. Nevertheless, he hoped to continue the method; and he advised that the temperature of the water should be ascertained by the thermometer in every case. The recent researches of Dr. Max Runge tended to show that, if success was to follow the hot water treatment of *post partum* hæmorrhage, the temperature of the water must not be so high as it was in Dr. Walter's cases. In all the cases but one, the injection was followed by relaxation and dilation of the entire uterus; if contraction occurred, it was but temporary; but, when the temperature of the water did not exceed 104° F., the uterus contracted without being afterwards paralysed. No appreciable effect was produced on the pulse and general condition of the system. After the failure of the injection, the application of the induced current was successful in several of the cases.

*Hot Water Injection in Post Partum Hæmorrhage.* By Norman Kerr, M. D., F. L. S. (London).—The author was called on January 5th, 1874, by a midwife, to Mrs. T., aged 25, a primipara. The child had been delivered an hour and a half, and the placenta expelled half an hour, before he was sent for. He

was told that the patient was dying, everything that could be done having been done by the midwife. The patient was deathly pale, cold, unconscious, and with no perceptible pulse. The vagina was packed with clots. He hastily removed most of these and threw up into the vagina (there being some difficulty in finding the os uteri) about a quart of hot water about 110° Fahr., and had hardly withdrawn the syringe when a faint tinge of red began to appear on the face, accompanied by a slight warmth of the skin and a faint pulse. In three minutes more, Dr. Kerr had cleared out the remaining clots, and thrown a pint and a half of water at 105° Fahr. right up to the fundus uteri. Ergot, milk, Liebig's extract, and cocoa were administered. Dr. Kerr narrated a second case of primipara who had serious *post partum* hæmorrhage with collapse, and in whom repeated hot water injections arrested the loss and restored the strength. From these and other cases, Dr. Kerr was driven to the conviction that hot water injection was a most valuable general stimulant; it acted like a charm in many cases where the use of cold was contraindicated. Alcohol was a prompt and efficient stimulant; but its use was fraught with great risk of renewed flooding from the relaxation of the circulation. The injection of hot water was even more speedy in operation, and quite devoid of danger, no serious sequelæ following its employment. He was convinced that, in all the hæmorrhages of pregnancy and parturition accompanied by collapse, the injection of hot water would be found a simple, ready, and reliable remedy.

Dr. Barnes (London) complained of the misconstruction of his views on placenta prævia. He said there were cases in which the uterus had lost all reflex contractility. In these cases, the application of cold, the injection of ice or of warm water, was of no avail. The immediate application of some styptic to the gaping veins, such as the perchloride of iron, would alone arrest the hæmorrhage. He had lately attended a lady in her eighth confinement, in whom the uterus had become relaxed from successive pregnancies, and had lost the power of contracting. Knowing this beforehand, he had adopted every precaution. The hand had never left the uterus from the moment the child was born, until long after the expulsion of the placenta. In spite of all precautions, such as the subcutaneous injection of ergot and continued pressure on the uterus, hæmorrhage set in. The subcutaneous injection of brandy, the injection of warm water into the uterus, the injection of a solution of iodine in the uterus were tried in succession, but failed to arrest the hæmorrhage. The patient was now blind, deaf, pulseless at the wrist, and almost *in extremis*. The perchloride of iron was injected, and the hæmorrhage at once arrested. In half an hour afterwards, the patient had rallied; and she made a good recovery. This was a typical case for the use of of the perchloride; and it was in such cases

as this that he advocated its use. But for the iron, the patient must have died.

Dr. Dill (Belfast) considered the pouring of cold water from a height on the abdomen as most valuable.

Dr. J. Thompson (Leamington) was extremely pleased with the lucid explanation given him by Dr. Barnes. He believed with him that it was important to attend well to the ordinary means for stopping hæmorrhage, so that cases requiring the employment of injections into the uterus should not often occur. In every instance, he would first apply presure, and this was most effective if directed to the base rather than towards the neck of the womb. A dash of cold water was doubtless a very powerful means of producing contraction; and some practitioners would throw two or three pints, or more, suddenly over the abdomen when profuse flooding occurred, but the patient was thus placed in a most uncomfortable condition, though the hæmorrhage was stopped; and should this recur, we could not go on throwing such quantities of cold water. He had been in the habit of dipping the end of a napkin in cold water, and, striking this first against the side of a wash-basin, so as to disengage superfluous water, used it to flap the naked abdomen, so that each stroke should produce a little shiver. In this way he had kept a controlling influence over the uterus for several hours at a time till the disposition to flooding had ceased; without subjecting the patient to unnecessary discomfort. He had attended a case where the placenta was expelled in a mass before the head of the child came down, and the labor was completed without further loss of blood.

Dr. Cordes (Geneva) recommended the subcutaneous injection of ether in *post partum* hæmorrhage. He also regarded the subcutaneous injection of ergotine as valuable. The syncope could be avoided by the positional treatment, and by the application of Esmarch's bandages to the arms and legs.

Dr. Atthill (Dublin) would confine his remarks to the use of the four principal agents used for the arrest of *post partum* hæmorrhage; namely, ergot, cold water, warm water, and the perchloride of iron. Ergot was most unreliable; it took time to act, and, though valuable if administered to anticipate hæmorrhage, was nearly useless at the time, even if injected under the skin. Cold was perhaps the most efficient of all agents, if used in the proper cases and at the right time; that is, while the patient was warm, and reaction consequently followed. If its use were prolonged, or the patient were cold and exhausted, it was worse than useless. It was at this stage that hot water came in with advantage, not to supersede the use of cold. Dr. Walter recorded cases in which it failed, or did actual harm; but he used it too hot, namely, at 120°, instead of 100°; and the experiments referred to at the conclusion of his paper showed that not water was efficient in caus-

ing contraction of the uterine muscular tissue. If used at the proper temperature, hot water was far from being an absolutely efficient agent, but it was valuable; it would not replace the use of perchloride of iron, but it must sometimes render it unnecessary. Perchloride of iron was in some cases absolutely demanded, and was the most certain means of checking *post partum* hæmorrhage. It had, in Dr. Atthill's hands, saved several lives; but, like all other remedies, it was not absolutely safe. He knew of one case it which it seemed to cause instantaneous death; but he had known death to follow in a few moments from the simple act of syringing the vagina; air entered the uterus and caused death. Might this not have also been the cause of death when the perchloride was used?

Dr. Malins (Birmingham) said there were two conditions under which *post partum* hæmorrhage appeared to be benefited, one was sickness, the other fainting. The former had been recognized by Mr. Higginbottom, whose practice it was to give ipecacuanha until this was produced; but it was a rude and unsatisfactory mode of treatment, and could not be looked upon as reliable. As regarded fainting, he had never known a patient die in this form of hæmorrhage who fainted. It was generally alarming to bystanders; but it was a wise provision of nature to arrest the bleeding by lessening the force of the circulation, and promoting the formation of clots in the open sinuses. His own plan in so-called "flooders," was always to insist upon some preliminary treatment of general health; at the time of delivery, never to take the hand off the uterus; to give a dose of ergot as soon as the head pressed on the perinæum; afterwards, to inject ergotine subcutaneously by a long needle into the buttock. If these means were unable to effect the proper control, he saturated a sponge with solution of perchloride of iron—of Dr. Barnes's strength—and introduced it, protected by the hand, into the uterus, the opposite hand exerting pressure externally. He did not inject the solution, as, from his own experience, future evils after this plan were more likely to be avoided.

Dr. More Madden (Dublin) thought the members were largely indebted to Dr. Macan, for having ably initiated a discussion which had brought forward the views of many experienced practitioners, who had given their opinions on the causation, prevention and treatment of the most serious complication of labor. With regard to the prevention and treatment of flooding, he entirely agreed with Dr. Macan, that the reason they had comparatively so few cases of serious hæmorrhage in Dublin was, that there almost every practitioner was accustomed to follow the uterus down with his hand above the fundus, from the moment the child's head began to pass the vulva until the third stage was completed, and firm contraction of the uterus secured. No attempt should ever be made to hasten the expulsion of the placenta by any traction on the

cord. Next in importance, as a prophylactic of hæmorrhage, Dr. More Madden regarded the administration of an enema of warm infusion of ergot, or the hypodermic injection of a couple of grains of ergotine, towards the conclusion of the second stage. In the treatment of severe flooding, Dr. More Madden had great faith in the introduction of a sponge, saturated with solution of perchloride of iron, by the hand into the uterine cavity until hand and sponge were expelled by the contractile action thus excited. There were many other points which the time at their disposal prevented them from fully discussing—such, for instance, as the use of opium under certain circumstances, and the value of cold affusion; or the old Dubiin practice of slapping the woman's buttocks with a wet cloth; and the use of injections of iced water, vinegar and water, etc. He thought the cases reported by Dr. Walter were a very strong argument against the use of hot water injections; and, in his own practice, he would not feel justified in wasting any time, in a case of serious *post partum* hæmorrhage, in again injecting hot water, which Dr. Walter had clearly shown to be capable of producing relaxation of the uterus, and thus of increasing instead of restraining hæmorrhage. In the treatment of collapse he had derived very great benefit from the hypodermic injection of sulphuric ether; and he believed that, if this were generally adopted in the first instance, in the treatment of collapse, they would have little necessity for falling back on their last resource—namely, transfusion. For his own part, Dr. More Madden firmly believed that in most instances they might prevent flooding, if consulted in time, by the prophylactic treatment he had described in his paper; and that, in the improved midwifery practice of the future, and, he hoped, not distant time, the lamentable spectacle of a woman dying from hæmorrhage after labor would be never witnessed.

Dr. Edis thought that the preventive aspect of the question had not been sufficiently dwelt upon. Where labor had been conscientiously and intelligently supervised, the cases of *post partum* hæmorrhage would be few and far between. Before a patient was allowed to incur the pains and perils of childbirth, she should be put into training, the same as an athlete who was about to perform any severe task calculated to test his powers of speed, endurance or physical strength. The general health should be looked after, care being taken that the bodily functions were kept in as natural a condition as possible, so that, when the time came, the patient should be strong to labor. During parturition, every means should be resorted to calculated to prevent unnecessary delay or suffering. Chloroform, if administered at all, should only be given during the latter part of the second stage, and not during the preliminary stage, unless under special circumstances, as in rigidity of the os uteri, immoderate pains, etc. On the first evidence of any flagging power or arrest of the presenting part, timely assistance

should be rendered, and the patient not allowed to exhaust her powers uselessly. In a very large percentage of cases, *post partum* hæmorrhage might be altogether avoided by the judicious application of the forceps where the natural powers had been fairly tried and proved to be inadequate to effect delivery *cito, tuto, et jucunde.* The misfortune was that, when any special remedy was brought prominently forward as valuable in certain contingencies, many practitioners seemed to think it was the only or the best thing to do, and lulled themselves into a false security by the thought that they had the remedy at hand in case it should be needed; attention being thus diverted from what should have been the chief consideration—the prevention of exhaustion—to which alone the hæmorrhage was due. In those trying cases where *post partum* hemorrhage occurred in spite of all efforts to the contrary, too much praise could not be accorded to Dr. Barnes for having introduced to notice a remedy so valuable and so reliable, and which enabled the obstetrician, as it were, to snatch his patient from the very jaws of death, when otherwise all his efforts would have been futile.

The President (Dr. Kidd) said that, before calling on Dr. Macan to close the debate, he would sum up some of the more important points that had been touched upon, with a few brief comments. Dr. Macan opened his paper with remarks on the hæmorrhages of the early months, and the so-called menstruation of pregnancy, which he had very conclusively shown was not menstruation at all, but hæmorrhage arising from varying causes; and Dr. Henry Bennet had drawn attention to the frequency of inflammation of the cervix as one of these causes. This was quite in accordance with his (Dr. Kidd's) own experience; and, guided by what Dr. Bennet had said in his work on *Inflammation of the Uterus*, he had from an early period made it a rule, in treating cases of frequently recurring small hæmorrhages, or long continued draining of blood in early pregnancy, to examine the cervix, when he generally found the condition described by Dr Bennet; and on curing this the hæmorrhage ceased, and the patient went to her full time. Dr. Macan said he had directed attention to the recent use of the thermometer as a means of ascertaining whether the embryo was still alive or had perished. If the thermometer could afford positive information on this point, it would render the obstetrician even greater service than it had conferred on the physician in the treatment of typhoid fever; but we must still rely on the old rules of practice, and endeavor, when the os was not open and no portion of the ovum protruded, to prevent abortion; and when it was open and a portion beginning to protrude, use all the means in our power to hasten its expulsion. Plugging the vagina was a most valuable method of controlling the hæmorrhage; but, so long as there was any hope of preventing the abortion, no attempt should be

made to adopt Dr. Bennet's suggestion of plugging the os. It was even doubtful whether the vagina should be plugged under such circumstances, unless the hæmorrhage were excessive. When the embryo had come away and the membranes remained, plugging was a most valuable means of treatment in the early months. This was a most perplexing condition; so long as the membranes were retained, the patient was liable to excessive or even fatal hæmorrhage at any moment, and they might be retained for days; but if the vagina were efficiently plugged, more especially if Dr. Bennet's form of plugging the os, "bottling up the uterus," as he called it, were adopted, the attendant might leave his patient for some hours, satisfied that no hæmorrhage of consequence could take place; and when he removed the plug at the end of ten or twelve hours, he would probably find the membranes in the vagina and all risk of hæmorrhage over. Another plan that had been often adopted, especially when the membranes had not come away with the first plug and the os was open, was to pass a catheter into the uterus, and with a syringe throw up a stream of cold water. This generally caused their expulsion in a few minutes, and he had never seen any unpleasant consequence arise from the injection. Placenta prævia was the next subject referred to. He would only allude to the very interesting points as to the pathology of this condition, discussed by Dr. Macan and Dr. Barnes, and would pass on to some of the plans of treatment spoken of by others. Dr. Wallace spoke of plugging the vagina as being in common use in Liverpool, and expressed fear of the practice, lest the hæmorrhage should go on in a concealed manner, blood accumulating in the uterus. Plugging had long been the practice adopted in Dublin, but it did not originate there. It was a German practice, introduced in the last century; and when the membranes were unruptured, or the case was one of complete placenta prævia, it was a most remarkable method of controlling hæmorrhage till the os was sufficiently dilated to allow the completion of labour. If the placenta were attached all round the os internum, or the membranes were unbroken, the blood could not accumulate in the uterus. But plugging was not so much in use in Dublin now as formerly. Twelve or fourteen years ago, there was a great debate in the London Obstetrical Society on the treatment of placenta prævia; and since then the induction of labour as soon as possible after the discovery of the nature of the case, especially if the child were viable, had been more and more adopted as the rule of practice. He had himself been frequently called to see patients who had been safely conducted through one or two early and slight hæmorrhages, and then reduced to a state of so great prostration by a sudden rush of blood that they died in the act of delivery, or even before it was attempted; and therefore he lost no opportunity of urging the induction of labour as soon as it was clearly ascertained that the case was

one of placenta prævia. For this purpose, the plugging of the os after Dr. Bennet's plan, with prepared sponge, as suggested by Dr. Playfair, was the best means of commencing the induction of labour, as not only checking the bleeding, but at the same time dilating the os. Regarding the treatment of *post partum* hæmorrhage, Dr Edis had drawn attention to the preventive treatment, and to the advantage of attending to the general health of the patient before labour came on. He had happily compared this to the training and athlete underwent before undertaking a race or other great physical exertion, and had very wisely urged that women should be put in training by attention to their general health for the exertion they were about to undergo. Dr. Malins, Dr. Dill, Dr. Edis, and others, had further spoken of the importance of preventing the woman's powers from being worn out and exhausted by prolonged efforts in labour, and advised that she should be assisted by the use of ergot or by the forceps. That the undue prolongation of labour was one of the most frequent causes of *post partum* hæmorrhage could not be questioned, and all must agree with Dr. Edis in recommending the prompt use of the forceps when delay threatening to exhaust the patient occurred in the second stage. There was another means of preventing hæmorrhage which had not been spoken of, that was of not less value: the placing of the hand on the fundus as soon as the child's head was expelled, and following the uterus down, keeping it contracted till not only the placenta was expelled, but for some time afterwards, to afford time for the closing of the vessels by Nature's own processes. This following down of the uterus was called by Dr. Collins "a duty of paramount importance," and was very different from the method of Crèdè, which had been mentioned. He tried to expel the placenta at once by pressure on the uterus. Collins' or the Dublin method was to wait till the uterus expelled the placenta by its own efforts, securing a good contraction all the time; and with the same reason one did not extract the child but allowed it to be expelled, even the feet by the contraction of the uterus and vagina. The introduction of the hand into the uterus for the removal of clots, and causing contraction, as a means of checking hæmorrhage, had not been spoken of. It was certainly a most efficient mode of treatment, and should always precede the use of injection of any kind. Though an operation that seemed specially liable to be followed by inflammatory and septicæmic symptoms, it was certainly not so dangerous as the use of styptic, or perhaps even simple injections, and in the majority of cases completely checked the bleeding. Dr. Malins spoke of the effect of vomiting in checking the bleeding and reminded the meeting of Higginbottom's recommendation to administer ipecacuanha in cases of *post partum* hæmorrhage. Of this treatment, the President had no experience; he

had not tried it because, in the first place, ipecacuana took a considerable time to produce its effects, and he feared the nausea that preceded the vomiting would be injurious; but he was always glad to see vomiting in cases of hæmorrhage, and more than suspected that the greatest benefit derived from the use of ergot by the mouth was caused by the vomiting it often induced. He had very seldom seen hæmorrhage recur after vomiting had taken place. Dr. Walter's cases proved that the conditions were not yet known, under which injection of hot water might be relied on for inducing contraction and checking bleeding. That it was often useful, and stimulated very promptly the vital powers when the patient was cold and prostrate, the President was well aware from his own experience. The injection of a solution of her chloride of iron acted in a different way. The iron both coagulated the blood and corrugated the uterus, as Dr. Barnes had remarked. Unfortunately, the coagulation sometimes extended along the vessels, even reaching the heart, and so killing the patient. In the Coombe Lying-in-Hospital, they had often tried the introduction of a small piece of the solid perchloride into the uterus, either leaving it there or removing it in a few seconds; and the practice was probably a safer one than the injection of a solution. Professor Dill and Dr. Cordes had spoken of the advantage of lowering the patient's head so as to favor the flow to the brain of any blood that might still be in the vessels; bandaging the abdomen, by compressing the vena cava and other large veins, contributed to the same effect. Not only should the pillow and bolster be removed, but the foot of the bed should be elevated so as to give a decided inclination to the blood to gravitate towards the head. Some years ago, Dr. Wyse, of Rostellan, in the county Cork, wrote a paper recommending that the arms and legs should be elevated almost to a right angle with the body for the same purpose; and more recently German writers suggested bandaging the limbs tightly with the same view, and dignified the process with the name of "autotransfusion." The last resource was transfusion. Dr. More Madden spoke of this as a difficult operation; but, after some experience of it, the President could state that with due care, and following the method and directions of Dr. Robert McDonnell, it was not very difficult. He believed it was one almost entirely devoid of danger or bad after-consequences, and one that ought to be had recourse to at a much earlier stage than had hitherto been done.

Dr. Macan, in reply, said that he had purposely left out accidental hæmorrhage from his paper, as he considered there were already quite enough subjects for discussion. In what he had said with regard to the confusion that has occurred between "the cervix" and "the cervical zone," he had not intended to convey the impression that Dr. Barnes asserted that the placenta was inserted into the cervix. On the contrary, he

knew that Dr. Barnes held the same idea on this point as he (Dr. Macan) did, but had been led by the similarity of the two expressions to use them as if they were convertible terms. This confusion happened more than once in Dr. Barnes' work. First, when speaking of the cause of the hæmorrhage during the latter months of pregnancy, he said: "The first detachment of placenta, then, arises from an excess in rate of growth of the placenta over that of the cervix, a structure which was not designed for placental attachments, and which is not fitted to keep pace with the placenta." And again, when speaking of *post partum* hæmorrhage, he said that paralysis of the cervix was doubly dangerous in cases of placenta prævia, because "the cervix is the placental site." He did not agree with Dr. Barnes, that one could tell exactly what amount of detachment of the placenta must take place in each case; for there could be no doubt that the implantation of the placenta over any part of the uterus caused that portion of the uterus to resist any dilating force more than the surrounding uterine tissue into which the placenta was not attached. If, now, the presentation were marginal, then the expansion of the inner os would take place chiefly at the expense of that portion of the uterine tissue into which the placenta was not attached. It therefore at once followed that the placental site had not to dilate as much as Dr. Barnes' theory demanded that it should dilate, and therefore one could not tell the exact amount of detachment that must take place, and should therefore abstain from any attempt at artifical separation. The analogy that Dr. Barnes gave of the placenta growing too fast for the site of its insertion in cases of tubal gestation held good only if the placenta were supposed to be attached to the inside of the cervix, which idea Dr. Barnes repudiated. There was no analogy between the lower segment of the body of the uterus and the Fallopian tube; and to say that the lower segment of the uterus was not suited for the attachment of the placenta, and therefore did not grow fast enough for it, was a simple *petitio principii;* the whole question in dispute being whether this portion of the uterus were suited for placental attachment or not.—*British Medical Journal.*

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## TWO CASES OF PECULIAR DELUSIONS.

By Wm. Lewitt, M. D., Professor of Anatomy, Medical Department, University of California.

*Case* 1. I was sent for in great haste to visit Mr. J. W., aged 50 years, who was suffering excruciating pains, owing to the presence of a pin in the rectum. The patient supposed that at one time in his life he had swallowed a pin, and was positive he could feel it in his rectum.

I carefully explored the rectum, but was unable to detect the presence of any foreign body there, and concluded that the

pain was entirely imaginary. I endeavored to convince him that he was mistaken, but it was of no avail; he insisted that the pin was there and he could touch it with his finger, and was causing him great suffering. I again examined the rectum, and suddenly withdrawing my finger, informed him that I had discovered it. Turning from the bed to the table, I took a pin from my coat, bent it upon itself, and guarded the point by securing it in the blade of my forceps. Introducing my finger, I inserted the forceps with the pin into the rectum; then making a few manipulations, withdrew the forceps with the pin, at the same time exclaiming, "I have got it!" and holding it up so that he could see it. He immediately sprang from the bed, throwing his arms up with exclamations of joy, grasped me around the neck, saying he was entirely relieved of his pain. He never suffered further inconvenience from pain in the rectum.

*Case* 2. Mrs. H., aged about 55, presented herself at the Medical College, University of Michigan, complaining of severe pain in the right tibia, and showing a spicula (which she said was bone), about an inch and a half long and one-eighth wide, and about a line in thickness, stating that she removed it from her shin a few days before. On examination there was found to be no trouble whatever affecting the tibia.

The spicula proved on microscopic examination to be a part of a sclerosed tendon from the leg of some fowl. She was informed there was nothing the matter with her, and dismissed. Some months afterwards she began calling at my office, still complaining of the same pain, and insisting that there was more bone to come away, and wishing me to make an operation. After refusing repeatedly, I finally consented to operate on the bone.

The operation consisted in making an incision about three inches long on the anterior surface of the tibia, and, with a bone-gouge, cutting a groove about a quarter of an inch wide and about one-eighth of an inch deep in the tibia, and filling the wound with lint and allowing it to heal by granulation, which it soon did; and her pain all disappeared, and she had no more trouble with her leg.

I have cited these two cases to show that we often have to minister to minds diseased, and sometimes have to be cruel to be kind, to relieve such imaginary conditions of our patients, which cases require more judgment and tact than some of those with organic lesions. They are often the most troublesome cases the physician is called upon to treat and to satisfy.

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## THE LISTER METHOD.

For his antiseptic method, Lister has in no country been so severly and unjustly criticised as by some of his English colleagues. The Lancet referring to the surgical address deliv-

ered at the meeting of the British Medical Association, last summer, by Mr. Savory, attempts to prove that after an "impartial trial" of the antiseptic method, the statistics resulting are in no way superior to those obtained from the older and more simple methods of dressing and operating, but in some respects are even inferior. This attack is founded upon statistics of operations at St. Bartholomew's Hospital, at London, during the years 1876, '77 and '78. The death rate from secondary wound diseases being, for 1876, from (pyæmia 0.49 per cent.) pyæmia and erysipelas, 1.24 per cent.; for 1877 from (pyæmia 0.95 per cent) pyæmia and erysipelas, 1.43 per cent.; for 1878, from (pyæmia 0.96 per cent) pyæmia and erysipelas, 1.68 per cent. The Lancet therefore concludes that "if the Listerians can show better results than these, they are unjust to themselves and unfaithful to the doctrine they profess if they any longer withhold the statistical results of their practice." (The Lancet, August 16, 1879, p. 247.) It is true that the above stated results are praiseworthy, and that a new method, asserting superiority over the old must submit to trial and to criticism, but the Lancet's criticism of Lister's method is based upon no essential trial, and is therefore illogical. A trial should consist of a double series of an equal number of similar treated by each method simultaneously, and in the same wards of the same hospital, after which the results should be compared. This was not done at St. Bartholomew's. But a number of leading surgeons on the continent, neither "young enthusiasts of the antiseptic system," nor yet "germ theorists," but eminent and able men, have tried the methods, compared the statistics, and have published the results. It is these statistics, and not any enthusiasm for the germ theory, that has spoken the deciding word in favor of Lister's method.

Possibly the hygienic conditions of St. Bartholomew's Hospital are almost as good as in private houses, and therefore the antiseptic method is not so much needed. The great majority of hospitals, however, are not so safe against septic infection, and for these the superiority of antiseptic surgery cannot longer be disputed. The records from the last Russo-Turkish war speak volumes for the method. That anti-septic surgery has reached its highest perfection has never been claimed, either by Lister himself or by others. It would, however, be a dangerous retrograde movement to return to what Mr. Savory calls "simple means of dressing."—*Chicago Medical Gazette*, January 20th.

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## A MODIFICATION OF THE OPERATION FOR FISTULA IN ANO.

By J. J. Knott, M. D., Atlanta, Ga.

The following procedure will be found to do away with some of the inconveniences, and the most of the pain attending the operation for fistula in ano. I have tried it in two cases with perfect satisfaction. Introduce the anal speculum, with the

fenestra on a line with the fistulous track, pass the director through the fistula, allowing the speculum to remain *in situ.* With your curved, sharp-pointed bistoury, divide the tissues, and withdraw the speculum, director, and knife altogether. You get the following advantages by this method: avoidance of pain to a great extent; a full view of all the parts; and, so far in my hands, the avoidance of tenesmus of the rectum, which is likely to bring on strangury and retention of urine. The two cases in which this method was adopted were of a nervous temperament—cases which would call for an anæsthetic to allay pain consequent on the operation by other methods. —*New York Medical Record*, Jan. 10.

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### A PERTINENT ENQUIRY ABOUT DOCTORS AND CLERGYMEN.

A writer in an Eastern journal is perplexing himself to ascertain why, when doctors attend gratuitously to clergymen and their families, without discrimination as to their circumstances, they should not have the services of clergymen who can afford it in return. That is to say, when a minister is called to officiate at the marriage of a doctor or a member of his family why should the doctor, no matter how poor, be expected to pay a fee to the minister, no matter how rich the latter? And when a doctor attends the minister's child for a week or a month, the child getting well, for which he neither receives nor expects pay, the doctor, when his own child dies, would be expected to pay the minister for his services at the burial? And further, when the minister's salary is to be raised, why should the doctor who serves him gratuitously be expected to pay his full quota and perhaps more? And why should the doctor be expected to pay a first class pew rent, when he not only attends the minister and his family but all the poor of the parish without compensation? We have known, in the course of a long practice, a few clergymen who declined accepting our services gratuitously, and compelled us to take a fee, *nolens volens*; but they were not the richest of our clerical patrons.—*Pacific Medical and Surgical Journal*, January, 1880.

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### LACERATED CERVIX UTERI A PROBABLE CAUSE OF RECURRING ABORTIONS.

By S. V. Clevenger, M. D.

Mrs. X, married in 1865, is the mother of four children: the last child was born April 22, 1872. She had experienced no unusual difficulty previous to, during or after each labor. August 31, 1873, without any apperent cause, she aborted a three months fœtus; made a good recovery speedily, and upon the same date the following year, after a long walk, miscarried again a four and one-half months fœtus. Six weeks previous to this, at the third month of pregnancy, began the daily recurrence of vaginal discharges of an ounce or two ounces of blood, lasting one or two hours each time. On the 11th of February,

1876, after moderate exercise, another abortion of a three months fœtus occurred with such violent hæmorrhage as to endanger her life, and cause her confinement in bed two months.

Neurasthenia followed, from which she has never fully recovered, subinvolution, inflammation and ulceration of the uterus being the alleged causes of her nervous derangement; cauterization of the cervix was advised by skillful gynecologists, but fortunately was not permitted. This condition, unrelieved, existed till December, 1878, when I advised the use of hot water vaginal injections, and the application of glycerine plugs. Immediate benefit to the patient resulted, from thus relieving the congestion of the parts, and she has since this time enjoyed better, though without fully recovering, health.

In common with many other practitioners, I knew nothing of Emmet's demonstration of the pathological importance of cervical laceration, receiving my first information on the subject from Dr. E. C. Dudley, in July of last year. An examination revealed laceration of the cervix, through both ora. Assuming that this tear occured at the last full term labor in 1872, it seems probable that the following miscarriages were due to the want of cervical integrity. The everted edges of the cervix, with consequent "rolling out" of the intra-uterine tissue, would afford poor support for the contents of a gravid uterus. The recurrence of the abortion at the third month in the two cases, and its commencement in one case, would indicate that at this period the contents of the sack had acquired sufficient weight and size to press aside the feebly resisting false cervical walls, thus permitting the gravitation and expulsion of the fœtus and its appendages. That placenta prævia did not exist in the first instance at least is known, nor was there any cause to suspect death of either fœtus previous to expulsion.

That the laceration was the cause, it is now impossible to assert positively. The lesion may have taken place at any one of the preceding four labors.

[The history of the lesion as given in the case-books of the Woman's Hospital in the State of New York, and in the private records of Dr. Emmet, and in our own records, proves the correctness of the views above expressed, although, so far as we are aware, these views have not hitherto been specially published.—Ed.]—*Chicago Medical Gazette*, Jan. 20.

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### PFLEGER ON THE CEREBRAL PATHOLOGY OF EPILEPSY.

Dr. Ludwig Pfleger* reports that, out of forty-three cases (seventeen males and twenty-six females) of epilepsy in which he has made *post mortem* examinations, he found the hippocampus major shrivelled and sclerosed in twenty-five instances (males 7, females 18), while in two others atrophy, without sclerosis, was observed. In the course of about three hun-

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* Beobachtungen über Schrumpfung und Sclerose des Ammonshornes bei Epilepsie." Von. Dr. Ludwig Pfleger. *Allg. Zeitschr. fur Psychiatrie*, Bd. XXXVI, Heft 2—3.

dred other necropsies, chiefly of insane patients, he has also noted the following: Atrophy and sclerosis of both hippocampi in a woman, aged 49, who had died of paralytic dementia; atrophy of both hippocampi in a hysterical woman, aged 78, who had long been subject to convulsions, apparently not attended by loss of consciousness; adhesion of the anterior portion of the *cornu ammonis* to the ventricular wall above it, usually upon both sides, in the following eleven cases: a man, aged 38, who had one or two epileptoid attacks annually, and was said to have previously suffered from true epilepsy; two male general paralytics, aged 31 and 40, of which the younger was reported to have once been epileptic; a man who had first become epileptic at 22 years of age, whose fits were very frequent, though generally unaccompanied by loss of consciousness; seven cases of death from *marasmus senilis*, in two of which attacks of great excitement had been frequent.

Hemkes pointed out (see *London Medical Record*, March, 1878) that the lesion of the hippocampus was only observed by him in patients who had been epileptic before the twelfth year of life. Pfleger believes this to be so in the great majority of instances, but draws attention to three of his own cases in which epilepsy had only commenced at or after twenty years of age.

Dividing his cases into two groups, the first consisting of those in which the fits were frequent and severe; the second, of those in which they were comparatively infrequent and slight; the author finds that the great majority of instances of lesion of the hippocampus occurs in the first group. Thus, among eight males with strong and frequent fits, six had sclerosis; while among nine in whom the disease was milder, only one showed slight atrophy and sclerosis of the hippocampus, though marked atrophy of one half of the brain was present in three cases. Of fifteen women who suffered from the severe form of the disease, eleven were found to have sclerosis; and of eleven belonging to the second group, four had sclerosis, and two atrophy without sclerosis.

Adding together the cases of Hemkes and Pfleger, it would appear that a lesion of one or both hippocampi may be observed in about one-half of the necropsies on insane epileptics. It appears from anatomical and experimental research, that the *cornu ammonis* has no connection with the motor functions; it cannot, therefore, be maintained that the morbid change in it is either the cause, seat, or result of the epilepsy. The author attributes the lesion to a disturbance of nutrition dependent upon a change in the mode of circulation of the blood during and after the epileptic attack, owing to the peculiar distribution of the blood-vessels of the hippocampus. It will be seen that this is quite a different view from that adopted by Hemkes, who regards the appearances as due to "partial encephalitic processes with resulting atrophy."—Chas. S. W. Cobbold, M.D.—*London Medical Record*, November 15th.

## PROBABLE CAUSE OF LEPROSY.

A probable cause of leprosy, a disease, both the cause and remedy of which have hitherto eluded discovery, has been pointed out by Mr. Manson in a communication to the Linnæan Society. Microscopists have discovered in human blood and in the blood of dogs, swarms of small thread-like worms—*Filaria sanguinis hominis*. If they could grow and breed in the body in which they first appear, that body would soon die. "If the brood of embryo *filariæ*, at any one time free in the blood of a dog moderately well charged with them, were to begin growing, before they had each attained a hundredth part of the size of the mature *filaria*, their aggregate volume would occupy a bulk many times greater than the dog itself. I have calculated," says Mr. Manson, author of the paper in question, "that in the blood of certain dogs and men there exists at any given moment more than two millions of embryos." This minute creature is a very formidable parasite. Were it not that large numbers disintegrate and perish, or are voided with the secretions, having even been found in the tears, the natural functions of the blood would be impossible. Nature requires that for further development the *filaria* as well as other parasites should enter some other body. Knowing that mosquitoes suck human blood, Mr. Manson made arrangements by which he captured a number of the insects which had gorged themselves on the blood of a filarious Chinaman who had been "persuaded" to sleep in a mosquito chamber. On examining the insects by aid of the microscope, the subsequent development of the *filaira* could be well made out; it passes through three stages, in the last of which "it becomes endowed with marvelous power and activity. It rushes about the field (of the microscope), forcing obstacles aside, moving indifferently at either end, and appears quite at home." Referring to the papillæ which, appearing at one extremity of the creature are supposed to be the boring apparatus, Mr. Manson says: "This formidable looking animal is undoubtedly the *Filaria sanguinis hominis* equipped for independent life, and ready to leave its nurse, the mosquito." The *filaria* "escaping into the water in which the mosquito died is, through the medium of this fluid, brought into contact with the tissues of man, and either piercing the integuments, or what is more probable, being swallowed, it works its way through the alimentary canal to its final resting-place. Arrived there its development is perfected, fecundation is effected, and finally the embryo *filariæ* we meet with in the blood are discharged in successive swarms and in countless numbers. In warm climates the presence of these microscopic worms is most to be feared; and it has been but too clearly made out, and that its presence is associated with painful and disgusting diseases, and "not improbably with leprosy itself."—*Scientific News.*

# EDITORIAL.

"A green christmas makes a fat church yard." This has been an English proverb for generations;—how many we are unable to state. The questions which principally concern us, are, first, if the theorem be true as it respects England, is it equally applicable to this country? Next, what are the diseases which are most likely to be protected and fostered by a green christmas? Third, what steps shall the medical profession take, to secure exemption from the penalties entailed by a warm winter? In reply to the first query, it may be safely affirmed, that the two most mischievous morbid pests of this country are held in abeyance, at least, by low markings of temperature. It would therefore appear that if the postulation was true of England, it was yet the more so of this country. The evolution of swamp poison is checked by frost, but the poison is not permanently destroyed, for the warmth of the ensuing Spring renews the toxic energy of the germs in the very locality where they were caught by the frosts of winter.

There seems to be a marked difference in the influence which cold exerts upon the essential cause of the other of the morbid pests alluded to. Yellow fever poison not only ceases to be evolved under the influence of frost, but seems subsequently to be incapable of survival in such form at least as would be productive of disease. After an epidemic of yellow fever, chance and a careless disregard of sanitary precautions, frequently permit the germs to be placed in situations where they are protected from a sufficient degree of cold to destroy them, and this even during cold winters. It is quite rational to conclude that the protection afforded by frost would be more or less general and complete in pretty direct ratio to the degree and persistence of the cold. The past winter has been too mild to justify confidence in the belief that yellow fever germs have been everywhere destroyed by low temperature. The attention of physicians, in localities of its prevalence last year, should be earnestly directed to these facts. Through cleansing of all

rooms or quarters which have been infected should be practised before the warm weather sets in. Fomites should be in some manner destroyed; lastly, and probably more important than all, the first cases should be isolated so rigidly that epidemics may be prevented, by keeping unprotected persons out of the range of the poison as we extinguish a fire by withholding materials for combustion. We think it hardly rash to assert that the experiences of 1879 justify a declaration that yellow fever can be stamped if well directed efforts are resorted to at the beginning of its outbreaks.

## Reviews and Book Notices.

*A Treatise on the Science and Practice of Midwifery.* By W. S. Playfair, M.D., F.R.C.P., Physician Accoucheur to H. I. and R. H., the Duchess of Edinburgh, Professor of Obstetric Medicine in Kings College, etc., etc. Third American Edition, revised and corrected by the author, with notes and additions by Robt. P. Harris, M. D. With two plates and one hundred and eighty-three illustrations. Philadelphia: Henry C. Lea. New Orleans: Armand Hawkins, medical bookseller, 196½ Canal street.

The medical profession has now the opportunity of adding to their stock of standard medical works one of the best volumes on midwifery ever published. The subject is taken up with a master hand. The essentials to correct knowledge, the anatomy and physiology of the generative organs, afford the student an apportunity to familiarize himself thoroughly with the groundwork of obstetrics, and step by step he is carried into the subject of the physiology of pregnancy and parturition. The mechanism of labor is made so interesting that this much neglected, but so important subject need not be looked upon as an abstruse theorem in geometry. The part devoted to labor in all the various presentations, the management and results, is admirably arranged, and the views entertained will be found essentially modern, and the opinions expreseed trustworthy.

Part IV. is devoted to obstetrical operations, and is valuable as containing the method of operating and the reasons there-

for. The addition, by Dr. Harris, of a review of the use of forceps in America, adds much to the completeness of the subject.

The work closes with a section devoted to the study of diseases of the puerperal state, and is sufficiently in detail to meet all requirements.

The work abounds with plates illustrating various obstetrical positions; they are admirably wrought and afford great assistance to the student. The publishers have spared nothing in placing the work before the profession in first class style.

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*A System of Midwifery, including the Disease of Pregnancy and the Puepural state.* By William Leishman M. D. Regius Professor of Midwifery in the University of Glasgow; Physician for Diseases of Women, and Consulting Physician to the Obstetrical Department in the Glasgow Western Infirmary, etc. Third American edition, revised by the author. With additions, by John S. Parry, M. D. With two hundred and five illustrations. Philadelphia: Henry C. Lea, New Orleans, Armand Hawkins, medical bookseller, 197½ Canal street. 8 vo. pp. 732.

To the American student the work before us must prove admirably adapted. Complete in all its parts, essentially modern in its teachings, and with demonstrations noted for clearness and precision it will gain in favor and be recognized as a work of standard merit.

The arrangement of the werk is natural. The introductory chapter is chiefly historical, but contains, besides, observations on comparative anatomy illustrating pelvic changes occuring during the gestation of lower animals. The study of the pelvis and female organs of generation is taken up methodically, and the subject of development of ovum, embryo and fœtus is excellently demonstrated.

The chapter on the mechanism of labor are rendered highly comprehensive by the introduction of engravings showing the various stages of labor, so arranged that flexion, progression, rotation and extention are shown on the same plate.

The complications of pregnancy and parturition are fully given and the chapters on the obstetrical operations and puerpural disease are judiciously arranged and the subjects admirably treatsd.

The work cannot fail to be popular and is cordially recommended.

The publisher's task has been admirably performed as is testified by the durable binding and clear printing,

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*Sexual Neuroses.* By J. T. Kent, A. M., M. D., St. Louis, Mo. 12 mo., pp. 144. From the author. Price, $1 50.

When works devoted to the genito-urinary organs have a large and important part of their pages filled with the study of those affections of the nervous system arising from or dependent upon some vice, local or constitutional, connected with these organs, we think that special works devoted to sexual neuroses are not only out of place when they advance nothing new in therapeutics, but could be as well left unwritten. In our examination of this work we find some cliuical records that are given in racy style; pen pictures, word paintings, in fact. These cases present typical views of the diseases under consideration, but are interesting chiefly as clinical curiosities. The outlines of treatment are laid down. The therepeutic agents are few, and are those usually emyloyed.

The work is well arranged and creditably printed.

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*Diseases of the Stomach*, the varieties of Dyspepsia, their diagnosis and treatment. By S. O. Habershon, M. D., London, Fellow of the Royal College of Physicians, etc. Third edition. Philadelphia: Lindsay & Blakiston. New Orleans: Armand Hawkins. medical bookseller, 196½ Canal street. Price, $1 75.

This work embraces within its pages a careful study of the diseases of one of the most important of organs, and the reader is presented with the reseach of many years of experience in hospital and private practice.

The volume contains twenty chapters, devoted to the study of the various forms of dyspepsia, atomic, inflammatory, hepatic, rheumatic, renal, sympathetic, etc., cancerous diseases and spasm of the stomach. The symptoms are clearly given, and approved methods of treatment recommended.

We feel sure that the stomach is more imposed upon by *routine* practice than any other organ, and cheerfully recom-

mend this work as systematic, and entitled to careful examination and close study.

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*The Throat and the Voice.* By J. Solis Cohen, M. D., Lecturer on Diseases of the Throat and Chest in Jefferson Medical college, etc. Philadelphia: Lindsay & Blakiston. New Orleans: Armand Hawkins, medical bookseller, 196½ Canal street.

The popular series known as American Health Primers, continue to merit the approbation of the profession. The time has come when hygiene and preventive medicine bid fair to occupy their proper place, and these primers will assist in the education of the laiety in matters connected with the laws of health. Among the educated, the charlatan finds a limited field for the prosecution of his schemes of spoliation.

The little work before us will be popular. It is written with a view of directing the general reader to some scientific facts, concerning the throat and the voice. Subjects, ordinarily dry and uninteresting, will afford pleasure and profit to the general reader, and the hints on proper care and cultivation of the vocal organs will be appreciated by teachers and public speakers especially.

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*A Guide to Surgical Diagnosis.* By Christopher Heath, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, and Surgeon to University College Hospital, etc. Philadelphia: Lindsay & Blakiston. New Orleans Armand Hawkins, 196½ Canal street. 12 mo. pp. 214.

The author, recognizing the difficulty even a well read student finds in bringing his knowledge to bear upon the patient before him, has arranged in this little volume certain *landmarks* for his guidance and presents them grouped anatomically so as readily to fix the attention. The introductory chapter gives an excellent plan for proper recording cases.

The various parts of the body are taken up in natural order and the affections of each are pointed out.

The tables illustrating the differential diagnosis of surgical affections afford a great deal of information in concise form and are especially valuable.

The index affords ample opportunity for ready reference.

# Books and Pamphlets Received.

*On the Internal Use of Water for the Sick, and on Thirst.* A Clinical Lecture at the Pennsylvania Hospital, October 25, 1879. By J. Forsythe Meigs, M. A., one of the Attending Physicians to the Hospital.

*The Answer of the New York Neurological Society to the Document known as the Report of the Committee on Public Health Relative to Lunatic Asylums.*

*A Protest Against Meddlesome Midwifery.* By H. Gibbons, Sr., M. D. Read before the San Franciseo County Medical Society.

*State Medicine and State Medical Societies.* By Stanford E. Chaillé, A. M., M. D. Extracted from the Transactions of the American Medical Association.

*Transactions of the Tenth Annual Session Medical Society of Virginia*, 1879.

*Malignant Degeneration of a Fibroid Tumor of the Uterus. Large False Aneurism in the substance of the Growth.* By Drs. Albert N. Blodgett and Clifton E. Wing. Boston.

*Laudable Ambition; An Address delivered before the Philomathian Literary Society of Cooper Institute, Lauderdale County, June 20th*, 1877. By A. C. Love, M. D.

*Circular of the Legislative Committee of the Louisiana State Medical Association and of the Board of Health to Physicians throughout the State.*

*Annual Report of the Board of Administrators of the Insane Asylum, State of Louisiana, to the Governer.* 1879.

*Paquelin's Thermo-Cautery with Wilson's Antithermic Shield in Epithelioma of the Cervix Uteri.* By H. P. C. Wilson, M. D., Baltimore, Gynecologist to St. Vincent's Hospital and the Union Protestant Infirmary, Vice President of the Baltimore Academy of Medicine, of the Medical and Chirurgical Faculty of Maryland, and ex-Vice President of the American Gynecological Society, etc., etc.

*Annals of the Anatomical and Surgical Society, Brooklyn, N. Y.*

*Color-Blindness and Defective Sight among Railroad Employés.*

## Meteorological Summary—January, 1880.
## Station—New Orleans.

| Date. | Daily Mean Barometer. | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. | General Items. |
|---|---|---|---|---|---|---|
| 1 | 30.30 | 65.0 | 82.7 | East. | .... | Highest Barometer, 30.403, on 13th. |
| 2 | 30.25 | 65 7 | 87.3 | East. | .13 | Lowest Barometer, 29.774, on 22d. |
| 3 | 30.25 | 67.7 | 83.7 | East. | .... | Monthly Range of Barometer, 0.629 |
| 4 | 30.27 | 69.0 | 81.7 | S. E. | .... | Highest Temperature, 75° on 5, 6, 11. |
| 5 | 30.24 | 69.5 | 72.3 | S. E. | .... | Lowest Temperature, 42° on 24th. |
| 6 | 30.24 | 69.7 | 81.0 | South | .... | Monthly Range of Temperature, 33°. |
| 7 | 30.24 | 68.0 | 84.0 | S. E. | .... | Greatest Daily Range of Temperature, |
| 8 | 30.09 | 68.0 | 82.0 | West | .03 | 18° on 29th. |
| 9 | 30.06 | 68.2 | 78.7 | South | .... | Least Daily Range of Temp., 6° on 12, |
| 10 | 30.10 | 67.7 | 78.0 | S. E. | .... | 21, 26th. |
| 11 | 30.14 | 68.5 | 76.7 | S. E. | .... | Mean of Maximum Temperatures, 69.1° |
| 12 | 30.23 | 67.5 | 84.3 | S. E. | .44 | Mean of Minimum Temperatures, 57.0° |
| 13 | 30.32 | 54.5 | 58.0 | North | .... | Mean Daily Range of Temp., 12.1°. |
| 14 | 30.19 | 59.7 | 74.0 | East. | .... | Prevailing Direction of Wind, S. E. |
| 15 | 30.18 | 62.7 | 83.3 | North | .... | Total Movement of Wind, 4,954 miles. |
| 16 | 30.14 | 63.0 | 80.0 | East. | ... | Highest Velocity of Wind and Direc- |
| 17 | 30.11 | 65.7 | 77.7 | East. | .... | tion, 21 miles, S. E. on 3d. |
| 18 | 30.20 | 62.0 | 59.0 | North | .... | Number of Clear Days, 10. |
| 19 | 30.14 | 64.2 | 68.7 | S. E. | .... | Number of Fair Days, 14. |
| 20 | 30.04 | 65.5 | 76.0 | S. W. | ... | Number of Cloudy days on which no |
| 21 | 29.82 | 66.2 | 84.0 | South | .25 | Rain fell, 4. |
| 22 | 29.87 | 60.5 | 62.0 | North | .17 | Number of Cloudy Days on which |
| 23 | 30.04 | 53.2 | 48.7 | N. E. | .... | Rain fell, 2. Total number of days |
| 24 | 30.08 | 51.5 | 43.7 | N. E. | .... | on which rain fell, 5. |
| 25 | 29.97 | 49.5 | 47.0 | N. E. | .... | Dates of Luna Halos, 21, 23, 26, 27th. |
| 26 | 29.83 | 55.2 | 54.3 | N. W. | .... | COMPARATIVE TEMPERATURE. |
| 27 | 29.97 | 58.5 | 52.0 | West | .... | 1871..... \| 1876 .....60.3° |
| 28 | 30.12 | 60.2 | 67.7 | S. W. | .... | 1872..... \| 1877 .....53.7° |
| 29 | 30.11 | 63.0 | 65.3 | S. E. | .... | 1873 .....49.5° \| 1878.....51.0° |
| 30 | 30.14 | 66.2 | 83.0 | S. E. | .... | 1874.....56.0° \| 1879.....53.1° |
| 31 | 30.17 | 64.5 | 83.3 | North | .... | 1875..... 54.2° \| 1880 .....63.2° |
| Sums | | | | | | COMPARATIVE PRECIPITATION |
| Means | 30.126 | 63.2 | 72.6 | S. E. | 1.02 | 1871.....inches. \| 1876: 4.43 inches |
| | | | | | | 1872..... " \| 1877: 5.30 " |
| | | | | | | 1873...5 06 " \| 1878: 5.36 " |
| | | | | | | 1874..1.68 " \| 1879: 2.34 " |
| | | | | | | 1875..8.44 " \| 1880: 1.02 " |

## Mortality in New Orleans from January 18th, 1880, to February 15th, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox. | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| January 25 | 0 | 0 | 5 | 0 | 4 | 76 |
| February 1 | 0 | 2 | 14 | 0 | 6 | 93 |
| February 8 | 0 | 1 | 23 | 0 | 10 | 122 |
| February 15 | 0 | 3 | 19 | 0 | 7 | 102 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total.... | 0 | 6 | 61 | 0 | 27 | 413 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL

## APRIL, 1880.

## ORIGINAL COMMUNICATIONS.

### A Few Cases of Leprosy,

By J. H. BEMISS, M. D.,

(Lahaina, Maui, H. I.)

"Leprosy in the Hawaiian Islands" has been the title of several papers published from time to time in the United States. That of my friend and associate in practice, Dr. F. H. Enders, deals with the most interesting questions, and will be of value to those who may be able to read it in the Transactions of the International Medical Congress of 1876. My purpose is to present a few cases whose histories were either taken by myself, or obtained from Dr. Enders, or elsewhere, calling attention to some points which may serve to add interest to this paper.

Statistics as to the time and manner of introduction of leprosy into these Islands, are wanting. The period between 1825 and 1830 is supposed to approximate to the correct time of importation, though the evidence to that effect is very indefinite. Rev. W. P. Alexander who came here in 1833, says, the first case he met with personally was that of a native Hawaiian in about 1838, living in a very isolated locality on this island (Maui), but he had heard several years before that a chiefess in Lahaina—also on Maui—was affected with the

disease. The first case on the islands was said to have been that of a chinaman on Oahu, the island upon which Honolulu is situated.

Of course the manner of introduction is just as uncertain as the time. The means for importing it, however, have been unlimited. During the height of the whale hunting business, that is, during the first half of the present century, these islands were the great resort for the whaling fleets of the Pacific, as many as a hundred sail often being in the harbors of Honolulu, Oahu; or Lahaina, Maui; at one time. These vessels in addition to bringing sailors from all parts of the world, frequently shipped native crews, who in their cruises were brought into contact with all nations along the Pacific, and afterwards returned here to spread such diseases as they might have contracted. But before whalers ever touched at these islands, the natives are said to have occasionally gone from island to island in the Pacific exchanging their diseases, as well as their commodities, which latter, however, were probably very limited. It may be then that the disease was present here in a dormant state long before it became generally known —at least to foreigners. The old disease, "mai alii—chief's disease"—is generally supposed to have been Elephantiasis Arabum, or else the result of the high living, in which the chiefs indulged. Some, however, have thought it not too much to suppose some of the cases to have been leprosy.

The natives call leprosy "mai pake," "chinese disease," the tradition among them being that the "heathen Chinee" brought it with them. But the first lot of Chinamen did not come here until quite a number of years after leprosy became known, and this charge seems the more unwarrantable when we consider that of the whole population at the leper asylum there are not over six Chinamen.

After its introduction it seems to have spread quite slowly until the latter part of the ten years, 1850–1860. It then became so plentiful that the government took alarm and began to institute measures looking toward the prevention of its spread; one of its acts being the establishment of the Leper Asylum on Molokai, and the forcible transfer of pronounced

cases to that place. The census of 1878 (December 21st), showed the number of lepers at the Asylum Kalawao, at that date to have been 806; since then quite a number have been added, though there are still many at large. There have been admitted to Kalawao certainly not less than 2000 persons from 1866 to date; of which number upwards of 750 are still alive. The total native population, excluding all foreigners and those born of foreign parents, is 44,088 (census of 1878), quite a small number to furnish so much leprosy. The large majority of these are full blood natives or half breeds, there being two whites,—one American, the other English, and less than a half dozen Chinamen.

There are present here, the two forms, tubercular and anæsthetic. This division is based upon the predominance of one or the other of the two most important symptoms. In actual observation the disease does not always admit of such strict classification, but generally shows the two forms combined in greater or less pathologic preponderance. It may start as purely tubercular or purely anæsthetic, but does not often preserve a single type throughout its course; in the one case anæsthesia, in the other tubercles making their appearance in due time. As to a third variety, macular, my observation does not warrant my stating any such class. True, maculæ of one sort or another are common enough, but these cases already present one or the other of the two forms generally recognized. I have seen but one case in which I was not easily able to observe tubercles or anæsthesia well marked.

This man had several large, light and slightly raised maculæ upon his body, as the only main symptom of the disease, but these were anæsthetic, and there was a slight enlargement of the alæ nasi due to infiltration, one of the phenomena of incipient tubercular leprosy.*

The tubercular variety is characterized by infiltration and

*After having prepared this for the mail, I was upon Molokai on professional business, and there saw a case more purely macular than the above. The child, a girl ten years old, presented upon her face especially, but also elsewhere upon her body, large black maculæ, slightly raised above the surface and producing a very disastrous effect upon her appearance. She was so young, that it may be she did not understand my questions: at all events, neither by questions nor close examination could I obtain any evidence of anæsthesia. Scattered from her left eye brow to her hand were not less than six small tubercles, on her right hand there were about half as many.

subsequent hypertrophy of the skin, especially where there is much loose tissue, such as the lobes of the ears, alæ nasi and face generally. Later on there is deposited in the skin of the face, hands, arms, &c., cheesy masses of the size of a pea or a little larger. These tubercles are prone to break down and leave deep indolent sores, which heal, however, after a time, but with strongly marked cicatrices. Mucous membranes, just as the external skin, are liable to the above morbid changes. They may become infiltrated and hypertrophied, or tubercles may appear in their substance and undergo ulceration. When such changes occur in the larynx an alteration of the voice is the result. In breaking down, they produce a most offensive fetor of the breath. The same changes occurring in the mucous membrane of the intestines are in a certain proportion of cases the cause of the diarrhœa which is so common, and so often fatal. But in many instances diarrhœa is only one of the many intercurrent affections due to a vitiated state of the system. In cases primarily anæsthetic, I have on several occasions first observed tubercles upon the mucous membrane of the posterior part of the tongue and pharynx, as the only localities where they may be seen at that stage.

The anæsthetic form is marked by all those phenomena which are the result of degenerative changes in the nerves. These are anæsthesia, paralysis, contractions and distortion, especially extreme flexion or extension of the fingers and toes, also ectropion, loss of smell and taste, wasting of muscles, vesicles, sloughing of fingers and toes, &c. The ulnar and facial nerves are especially frequently affected, but all are liable.

It is with difficulty that any history of a prodromic stage can be obtained from a native. They are by no means observant of such matters, but occasionally one may be found who will complain of a general indisposition extending over a period of several months or even longer.

When anæsthesia plays an important part from the first, the patients very frequently speak of formications, over the entire body sometimes, but especially over the nerves which afterwards become anæsthetic.

The following case was among the first that came to the office after my arrival. It is quite a typical case and as will be noticed combines the two forms :

CASE I. Lahela, female, aged 30, pure-blooded native; residence, Waihee, Maui. Lahela admits no history of any syphilitic cachexia. Can say nothing as to the health of her parents or what caused their deaths. She has a child 6 years old now affected with leprosy. (It was examined by us.) The child was quite sickly when a baby, but seems to be healthy, *generally*, now. L. first noticed the disease in herself two years ago, when she suffered much from chills and fever and general ill health; "she enjoys better health now."

Skin of face and lobes of her ears infiltrated and more or less hypertrophied: that of hands, arms and feet tuberculated and shows scars in abundance. Skin of left forearm and left hand anæsthetic, also little and ring fingers of the right hand, and ulnar side of right hand and forearm. The fingers of left hand are considerably distorted, the two terminal phalanges fixed, which first are slightly extended. Those of the right hand are also affected slightly in same way. Voice coarse, tubercles on posterior part of tongue and pharynx. Smell affected. She was vaccinated when young by a foreigner.

She was put upon one-tenth of a grain (gr. 1-10) of nitrate of silver three times daily, salt being interdicted. An additional note taken one month after first appearance reads: Anæsthesia apparently less, but pruritus of skin where eruption existed much greater than before—eruption desquamating; says she is "olualu loa" much better; appetite improved and says she longs for salt food, which I am inclined to think she uses freely though positively prohibited.

Salt was positively prohibited, because in addition to the danger of neutralizing the effects of the nitrate of silver, it is thought to have a deleterious effect in itself upon the disease. The food of the native consists principally of "poi" (a thick paste made from the baked or powdered root of the tarum esculentum) and fish, either salt or fresh, and much salt meat. Some foreigners, not physicians I am careful to add, have a

prejudice against fish and much salt food, on the ground that leprosy is caused by such articles.

We were firmly convinced that great improvement had resulted from the treatment adopted in L.'s case. Unfortunately we lost sight of her, she being afraid we would inform the authorities and have her arrested and removed to Molokai. I heard afterwards she had been removed.

Case II. Poupouka, female, aged 14, full-blooded native, residence, Waihee, Maui, came to the office August 27th, 1878. She gives no history of any syphilitic taint. Her mother has been affected as P. for the last three years. The man who brought P. is the father by P.'s mother of a now healthy boy two years old; the man himself gives no indication of the disease.

P. is rather deficient in intellect and can give no history of her case. Examination shows the skin of hands, arms, legs and feet tuberculated and infiltrated. Skin of face hypertrophied and shows two immense irregular black maculæ on each cheek; right hand and entire right forearm anæsthetic; little and index fingers and thumb of left hand anæsthetic; also back ulnar side of left forearm. She had been vaccinated six years ago.

The treatment instituted was similar to that in L.'s case, with the addition that she was to wash the diseased surfaces daily with carbolic tar soap and anoint the same with solution of iodide of sulphur in glycerine.

The points of note in this case are, 1st. The combination of the two forms; 2d. the partial or irregular affection of the nerves; 3d. P.'s mother, though a leper, was not sterile, leprosy according to some, causing sterility; this, however, is further contradicted by the fact that children have been born to leprous parents at the asylum itself; 4th. the maculæ are also of interest, but they occur associated with the disease otherwise well marked.

We were unable to take any notes upon the result of the treatment, for both Poupouka and Lahela were removed to

Molokai, about the middle of September. I might also add that P. and L. lived in the same house at Waihee.

CASE III. Keahi, male, aged 40; residence, Wailuku, Maui. He gives a history of buboes on two occasions, or as he expressed it "syphilis twice." Can't speak as to venereal or other diseases in his parents. Brother died with "sores on his body and lumps in his skin similar to patient's." Says he has been unwell about four years, but he first noticed these tubercles about half a year ago. His general appearance is that of a strong, healthy man. The skin of his face and lobes of his ears greatly infiltrated and hypertrophied. That of hands, forearms and legs hypertrophied, and excessively tuberculated, the same are covered with numerous scars—the seats of former tubercles that have ulcerated. Mucous membrane of mouth and pharynx thickened and tuberculated; voice coarse. Was vaccinated six years ago by a physician.

We note here the absence of anæsthesia; he gave no indication or evidence whatsoever of it. He remembers having had chancroids, but as is often the case everywhere, can't recall anything like chancre.

CASE IV. Kalepua, male, age 30, full-blooded native, came to the office with the left side of face swollen, painful and presenting all the characteristics of phlegmonous erysipelas, for which he was treated. It proved very obstinate, gradually becoming chronic with diminution of pain but not of the swollen condition. It finally improved somewhat under iodide of mercury internally and external applications of opium and acetate of lead; but he had been taking at different times tincture of the chloride of iron, iodide of potassium, etc., for upwards of a month. So unusual was the case that leprosy was not suspected. Prolonged observation however led to a belief that it existed, and subsequent phenomena one by one confirmed the diagnosis.

When a child he had an eruption upon his body which was probably secondary syphilis; since grown has had buboes; his mother died in child-birth; father still living but complains of "heaviness and weight" in his legs and feet.

The skin of the left side of the face and forehead was anæsthetic and expressionless, still thickened, evidently hypertrophied, there being no pain, heat, or redness. Muscles of left side of face paralysed, causing drawing of corners of mouth and face generally to right side, exactly as in hemiplegia. Paralysis of left orbicularis muscle causing dropping of lower eyelid (ectropion) and inability to move but slightly the upper lid. Tubercles upon pharynx and posterior part of tongue. Slight anæsthesia of two fingers (little and ring) of right hand. Was vaccinated 9 years ago by a foreigner, not a physician.

After leprosy was suspected he was put upon nitrate of silver, resulting in marked improvement in all his symptoms, especially the anæsthesia, that of his hand disappearing entirely.

This case was unique in its commencement, looking so like erysipelas and resisting every variety of treatment for over a month, then gradually settling into a chronic form, finally leprosy suspected. The diagnosis was gradually confirmed and improvement occurred under nitrate of silver.

The preceding four cases are from those collected by Dr. Enders and myself and probably illustrated the most permanent symptoms. They are, however, the histories of patients rather in the incipient stages, and the photographs which we had taken of the two first, would probably not show sufficient of the disease to warrant their publication.

Those which follow are the histories of lepers already at the asylum, and whose photographs were taken under the direction of the Legislative Sanitary Committee appointed by the last legislature to go to Kalawao and examine into the needs of the lepers.

The statements accompanying the photographs were not taken by us, but at Dr. Ender's request by Father Damien, resident catholic priest at Kalawao. Though not possessed of medical authority they will aid materially in explaining the photographs.

The following letter from the father is especially interesting:

KALAWAO, SEPT. 2, 1879.

DR. F. H. ENDERS:

DEAR SIR.—Your honorable note of the 25th July has been lately received. I have taken the statements desired concern-





Case V. (Photograph 1.)

ing the lepers who were photographed in 1878. Two of them are gone, eight still live; each one's history shown in the blanks the best I could. A very few children are born here of leprous parents and most of those have died; there are a few now from four to six years old, and nearly the half of them already have signs of leprosy. May last, I received from Hong Kong, China, a new medicine for the amelioration of leprosy—"Hoâng Nân;" Those who take it and can abstain themselves from fish and pork feel a general amelioration. It is a beautiful tonic and shouldbe introduced in this archipelago to keep down the spread of this disease.

My own health continues to be the same as before; perhaps I have the germs of leprosy in my system, I am not sure.

Very respectfully yours,

J. DAMIEN,

*Catholic Priest.*

CASE V. (Photograph 1.) Opu, female, age 38 years, native of Kauai. Parents dead, not certain of what disease. Opu, before she was married was paralyzed. In 1870 disease made its first appearance, was afterwards put in hospital in Honolulu, and from there sent to Kalawao. Her appetite is good but she is unable to move around much. Her face, hands and feet, covered with scars. Skin covered with dark dry cracking spots. Was vaccinated by a physician on Kauai, result a good scar; two years afterwards taken with a paralytic stroke in the legs. Since she was photographed the disease has made fearful progress.

The report of the Legislative Committee says:

Opu, woman, 49 years of age, and three years at the settlements, did not show much indication of leprosy on first arrival, but the symptoms of the disease developed very rapidly after her arrival at Kalawao. Neither of her parents nor any of her relatives had contracted the disease.

The photograph illustrates very finely the hypertrophied and infiltrated condition of the skin of face and lobes of ears. It is well to note also the absence of disease in her family, and

the fact that she became affected at least with a nervous disorder of an uncertain character, subsequent to having been vaccinated.

CASE VI. (Photograph 2.) Pilaui, female, age 41, native of Kauai. Father still alive, mother died in child-bed; both very healthy. Married in 1851; had three children. She says she caught the leprosy from another native in 1872 by living in same house. In 1874 had first appearance of leprosy with red spots upon the body. In the same year was sent to Molokai. Does not remember having had syphilis. Legs affected as hands and face, Skin of body dry and cracking. Eats well and is able to be about. Was vaccinated by two foreigners, one a physician, both times with good result.

Extract from legislative report.

Pilani, a woman, 33 years of age, and three and-a half years at the settlement, says that her person showed very slight indications of leprosy when she came here, but since her stay, the disease has developed rapidly. She has a child, a boy, five years of age, now living at Waimea, Kauai, not a leper and in the enjoyment of good health.

The photograph shows the tubercles scattered in the hypertrophied skin of the face. The ugly looking ulcers on her hands are well shown.

CASE VII. (Photograph 3.) Kahuna, male, 45 years old, of Honolulu, four years at Molokai; being deaf, can not find out his history; he had syphilis when young; is deaf, has sore eyes, and asthma.

The committee report says:

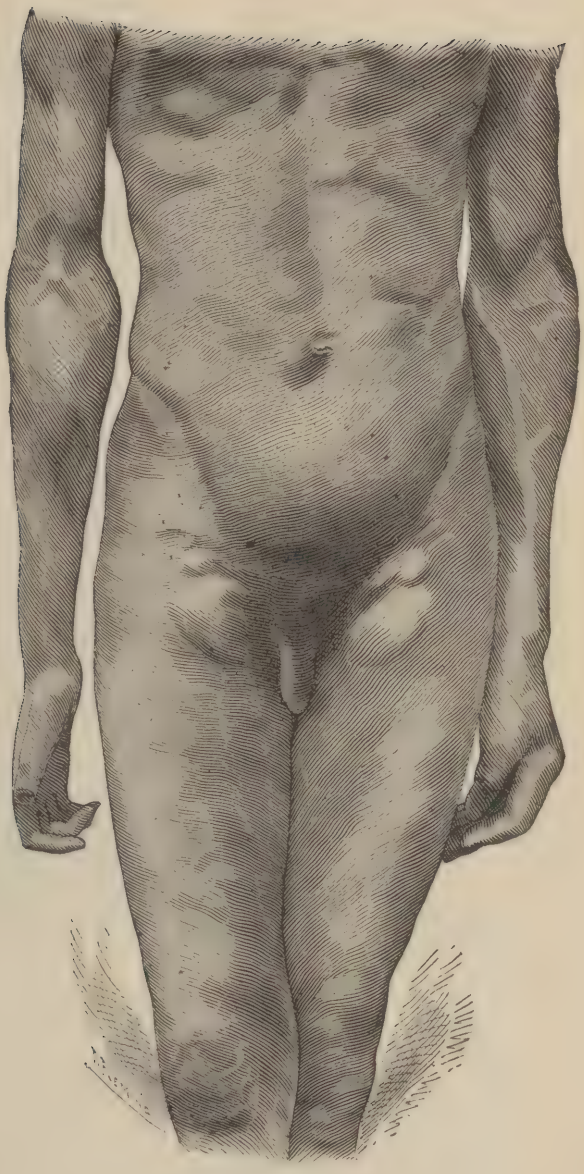
Kahuna, 40 years of age, two and-a-half years at Kalawao. His body indicating peculiar leprous blotches and marks, and notable swellings in the groins was photographed as No. 3, but owing to a defect in the focus the blotches do not appear.

CASE VIII. (Photograph 4.) Kaluhi, age 15, male, of South Koua, Hawaii.

His mother is an old leper; never saw his father. Was



Case VI. (Photograph 2.)



Case VII. (Photograph 3 )



Case VIII. (Photograph 4.)



Case IX. (Photograph 5.)



Case IX. (Photograph 6.)



Case X. (Photograph 7.)

brought up by a guardian. Leprosy appeared in him at the age of 5 or 6 years—he is now four years at the settlements. Is strong and has good appetite. General appearance same as in photograph. Respiration as an asthmatic. Vaccinated twice when very young. Apparently a case of inherited leprosy, and in this connection, I copy from the legislative report the following:

It is stated by Dr. Hoffman, who for some time had charge of the leper patients in Honolulu, that in no instance had he seen any symptoms of leprosy manifested earlier than five years of age. Thus it may be that leprosy, like syphilis requires a certain degree of growth before it begins to make manifest its ravages upon the system. It makes it thus a sad reflection, that perhaps the twenty-eight healthy looking children of the leper settlement at Kalawao are, after all, only doomed lepers.

CASE IX. (Photograph 5 and 6.) Kalamau, female, 60 years old. Mother died of leprosy—father died of nervous shakes. Kalamau enjoyed good health after marriage. She had two children. She was infected with syphilis in 1845, by her husband. She used native medicine which dried up the sores. In 1852 leprosy broke out in red spots all over her body. In 1856 commenced to lose fingers and toes. Still able to get about. Now both feet half gone, hands have no fingers, almost blind, mouth on one side, eyes always open, flesh wasted away, skin dry. Was vaccinated after contracting leprosy.

The report says:

Kalamau, a woman, 50 years of age, from Honolulu, and at Kalawao five years; a poor, helpless creature, whose palsied and fingerless hands had to be held to enable the photographer to take an impression—No. 6. The feet of this case without toes—all destroyed by the erosions of leprosy.

CASE X. (Photograph 7.) No history by Father Damien, Nuluaai being dead. Committee report says: Nuluaai, male, 56 years old; at Kalawao five years.

Case XI. (Photographs 8 and 9.) David Ostrom, a white man, age 60 years. Father and mother Americans, both healthy. He contracted this disease on the Island of Maui; had had syphilis in 1850 in New York. In 1871, first felt tenderness in bottom of feet. In 1872 first noticed yellow spots on breast; made their appearance after the use of cold water. Body covered with salmon-covered spots; hands and feet insensible to feeling; skin dry and shrivelled. Good appetite and able to be about. Vaccinated without effect in the States.

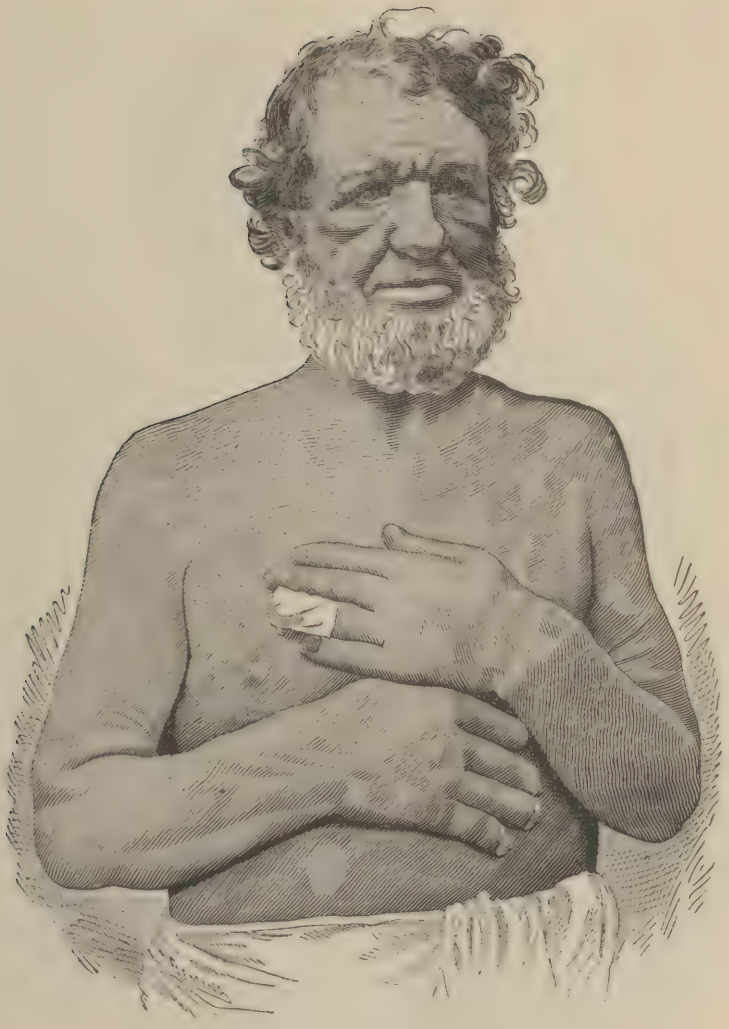
Committee report says:

Tom Ostrom, a native of the State of New York, American, 55 years of age, 3 years and six months at the settlement. No symptoms of the disease until about six months before coming here. Went himself to be examined by Dr. Enders and, when satisfied he had the disease, voluntarily came to the settlement. He feels satisfied his case is incurable. Would be willing to surrender his body to be vivisected, if necessary for the benefit of medical science. Wants to die. His feelings are terrible. Voluntarily offered his person to be photographed. His case is a marked illustration of leprosy. Large swellings in groins, which often suppurate. According to outside information, he was an assistant for some years in the hospital at Lahaina. He took some leper patients to live with him, in order to treat them for cure, and the disease appeared after this association. Photograph 8 represents a front view of Ostrom; photograph 9, a back view.

Case XII. (Photograph 10.) No history by Father Damien, Kaapu being dead.

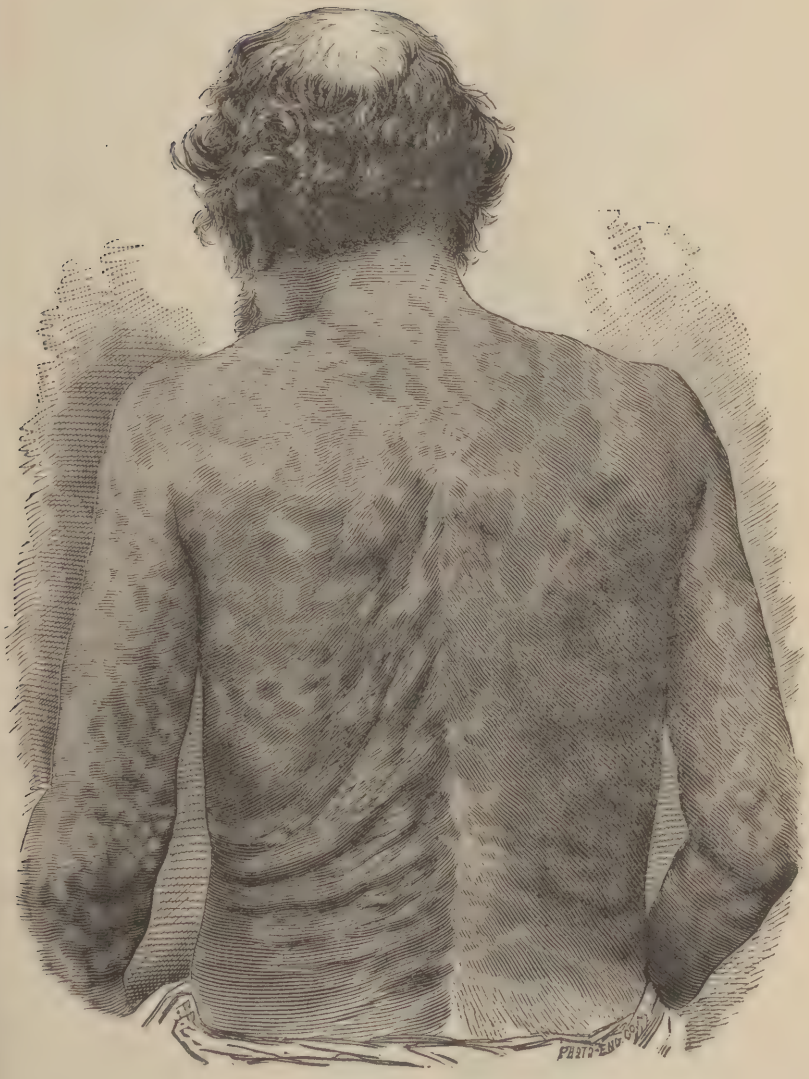
Committee report says:

Kaapu, a man from Waimanalo, the witness who testified to the digging of the graves. That testimony is—Kaapu, 32 years of age, and nine years at the settlement, says that he has been obliged to dig graves ever since he has come here. His hands are in a very bad condition. Has lost several joints of his fingers, and all are in an excoriated and suppura-



Case XI. (Photograph 8.)



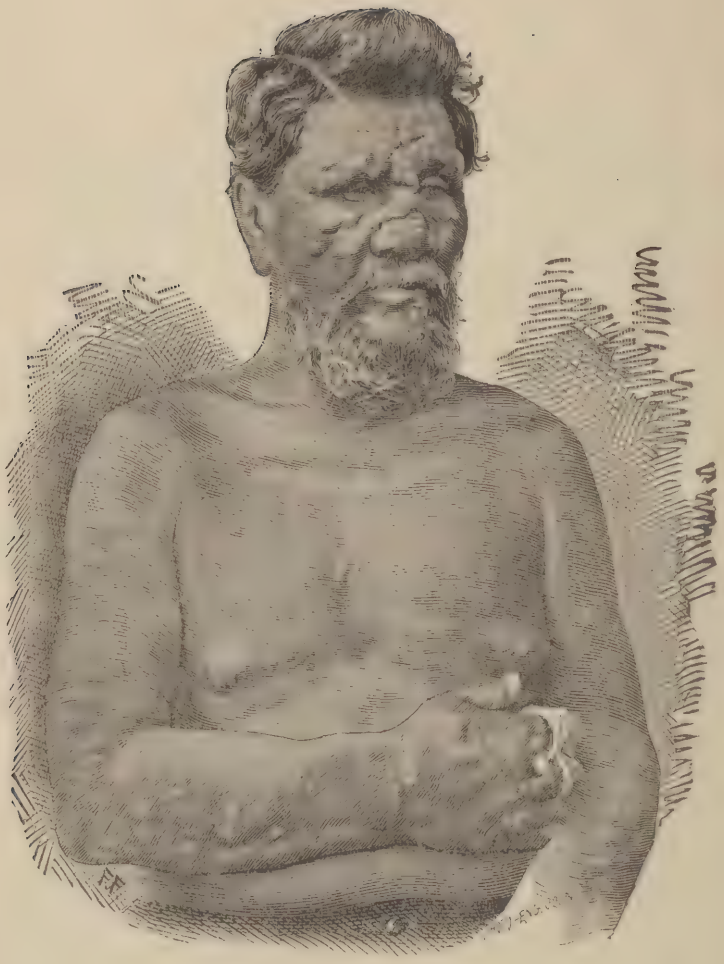


Case XI. (Photograph 9.)

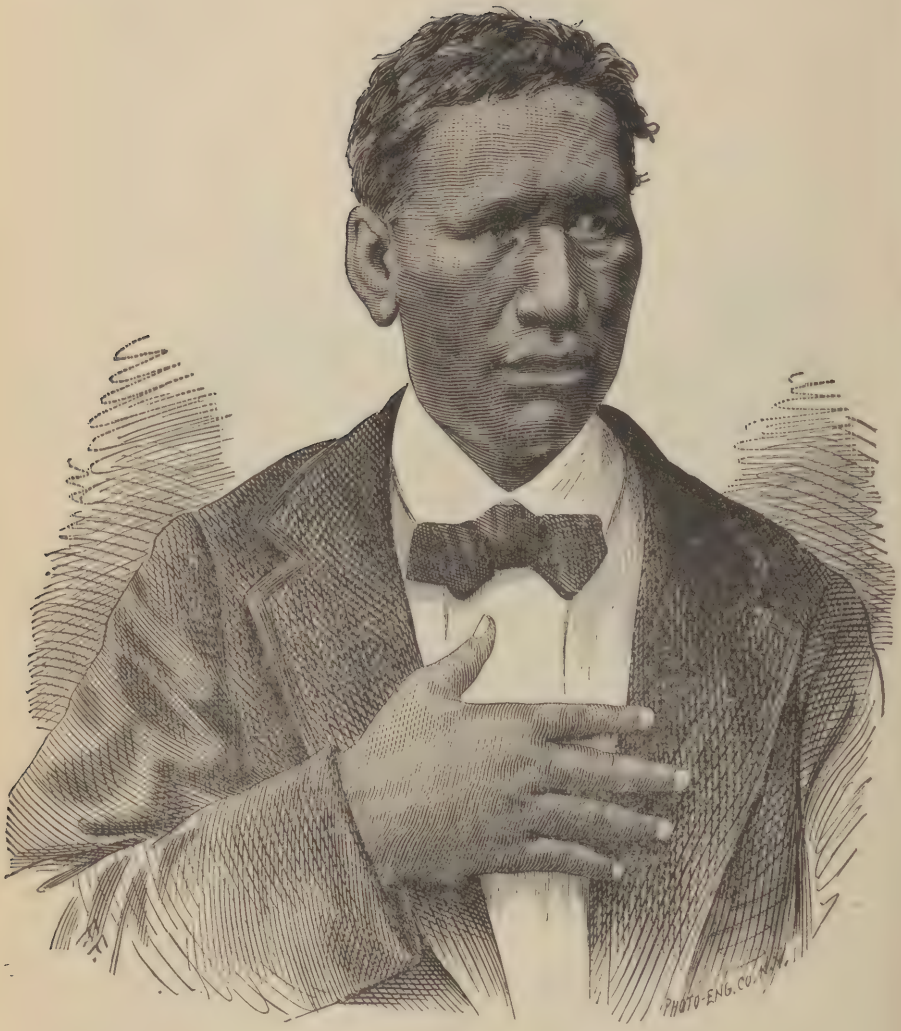




Case XII. (Photograph 10.)



Case XIV. (Photograph 12.)



Case XIII. (Photograph 11.)

ting condition. He is one of seven children and neither of his parents, nor any of his brothers or sisters have contracted the disease.

CASE XIII. (Photograph 11.) Eph. Kanoe, male, aged 30, native of Hawaii. His father is now seventy years old, and strong; his mother, 46 years of age; she is supposed to have had syphilis; she had nine children, Eph. being the oldest. When young he had sores upon his body. At 16 or 18 he had syphilis (buboes are meant probably). In 1871 he had for several months discharge of bloody excrement—(dysentery), and had a red spot on his right arm which was anæsthetic. In 1873 all the arm was red. In 1874 this was cold and hot by turns. Soon covered with bad sores. In 1876 redness appeared on his face; at the end of same year all his body was black colored, and in 1877 he was sent to Kalawao. His present condition is the same as when photographed, a little weaker, but he continues to move about. Whole skin leper-colored, but clean. Vaccinated in 1853 by a physician.

Committee report contains following:

"Kanoe Eparaima, a man, 30 years of age, and about two years at Kalawao. A case to illustrate the loss of the eyebrows as one of the effects of leprosy."

CASE XIV. (Photograph 12). Wm. Crouningberg, aged 46, male, nativity Lahaina; mother Hawaiian, father American, both were healthy. C. healthy from youth up. In 1869 had an anæsthetic spot on right foot. In 1873 one appeared upon face. Went to Honolulu for examination. In 1874 sent to Kalawao. He is covered with salmon-colored spots. Hands affected, fingers off one hand. Skin dry, shrivelled, cracking. Vaccinated a very long time before leprosy appeared. During 4 months used Hoâng Nân pills with wonderful effect for amelioration. Looks somewhat different from his appearance when his photograph was taken; now covered with scales, longest finger of right hand gone, both hands sore.

The above cases I hope will prove of interest to such of the profession as are giving some attention to this rapidly increasing

disease. They are necessarily more meagre than I could wish to have them, but even those whose histories were taken by a non-professional gentleman, illustrate many of the most interest ing symptoms of leprosy, and every little helps to swell the total amount of knowledge possessed of a disease.

It will be noted that syphilis or any syphilitic cachexiae were in every case diligently sought for, for there are some on these islands, as well as in India and elsewhere, who hold to an intimate connection between syphilis and leprosy. If there is any such relation as they claim, then is it unnecessary to speculate as to the manner of introduction of leprosy into this kingdom, for though my experience in foreign lands is confined to these Islands, I am not prepared to read of a country where syphilis is so prevalent, so grounded into the whole native population as here. The problem, then, would be, how long the disease—syphilis—left to itself, would require to become elaborated into leprosy. But I am not willing yet to adopt such an hypothesis, for then should leprosy be more general in the families of those affected, as well as more common in other countries, where there is a certain proportion of families thoroughly imbued with syphilis, and from which they have not been exempt for several generations. Again, anti-syphilitic treatment should give some good results, which is not the case, save when syphilis is added to the disease. Moreover, the symptoms of the two diseases do not coincide in a way to warrant such an opinion.

Vaccination was also inquired into. Alarmed by an invasion of small-pox in 1853, a general vaccination of the whole population was ordered, and physicians being at that time very few on the islands, non-professionals aided in the work. It is charged by some that, as a natural result of the labors of the heterogeneous force so appointed, not only syphilis but also leprosy was greatly increased. In my last circuit trip in my district, I found very few adults who had never been vaccinated.

This involves the question of inoculability, in my opinion the main, if not the only means of propagation, other than inheritance. That is, like syphilis it depends for its propagation

upon the direct introduction of its virus into the blood. The general immunity of those coming in constant contact with lepers points to the absence of any direct contagious quality. These statements are illustrated in the cases given above, and it is not necessary to lengthen this paper by explaining them. I will only quote the followiug from the committee report, as one of many instances of similar nature coming under my knowledge:

"The committee observed in a hut a leprous woman, named Makahiki, who presented all the appearances of a badly diseased incurable case, and yet had her fine, healthy child, living with her, a bright looking little boy, about 2 years of age. Her husband, Kioni Kahiapo, a healthy, intelligent looking man, with no appearance of any taint of leprosy about his person." "Had been with her in settlement about five years, and would remain with her as long as she had breath."

The duration of life is on an average within a decade of the undoubted establishment of the disease. With more strict hygienic measures than seem possible at Kalawao, this might be increased materially. The disease in itself would probably be long in producing death, but it causes a vitiated condition of the system favorable to pulmonary, hepatic and intestinal troubles which prove rapidly fatal.

Treatment has been directed to only two points: 1, prevention of spread, and 2, palliative treatment, including the relief of intercurrent troubles. In fulfillment of the first indication, the government has set apart a very favored quarter on Molokai. It is open to the trade winds on one side, and on the others is shut off from the rest of the island by almost impregnable mountains. To this place the lepers are carried and supported by legislative appropriations; and here also is a hospital where the helpless are provided for. Under the second indication, such as was possible has been done at the settlement itself.

As directed against the disease itself, I hope nitrate of silver will be more thoroughly tried. It certainly gave some good results in several cases under Dr. Enders' supervision, so far as the affection of the nerves was concerned—a result intelligi-

ble in the light of its alterative affects upon the nerves. Unfortunately it is impossible to keep a patient under observation sufficiently long to carry out a line of treatment thoroughly.

Charelmoogra oil has been used in India with good results, so it is claimed. We lately received from a prominent druggist in New York a sample, but have not yet been able to report any cases under its use.

LAHAINA, MAUI, HAWAIAN ISLANDS,
December 15, 1879.

## The Cæsarean Record of Louisiana—A Correction.

By ROBERT P. HARRIS,

Of Philadelphia.

In no State of the Union has the operation of gastro-hysterotomy been so often performed, and with such good proportionate results as in Louisiana; and in no state have so many claims been made in addition, which after a long and tiresome investigation have proved worthless. After my statment of "*twenty operations*," I discovered that one of them was in doubt, and wrote to postpone the publication; but the article was issued, and I must now correct a portion of it, and thereby reduce the number to nineteen.

In looking back over my ten years' research, I find that the cæsarean claims have in all amounted to 27; and that eight of these have been rejected. The remaining nineteen I have every reason to record with full credit, having been received in a way to establish their genuineness. Two cases required me to seek information in France before their final rejection, and one operation had three claimants, as will presently appear The following is a tabular record of the cases:

| NO. | DATE. | OPERATOR. | LOCALITY. | RESULT TO WOMAN. | RESULT TO CHILD. | REFERENCE OR AUTHORITY. |
|---|---|---|---|---|---|---|
| 1 | Not known. | François Prevost. | Donaldsonville. | Recov'd | Saved. | Dr. Tho's Cottman, N.Y. |
| 2 | Not known. | François Prevost. | Donaldsonville. | Recov'd | Saved. | Dr. Tho's Cottman, N.Y. |
| 3 | About 1825. | François Prevost. | Donaldsonville. | Died. | Saved. | Dr. Tho's Cottman, N.Y. |
| 4 | In 1831. | François Prevost. | Donaldsonville. | Recov'd | Saved. | Dr. Tho's Cottman, N.Y. |
| 5 | In 1831. | Chas. A. Luzenberg | New Orleans. | Died. | Dead. | Drs. J. P. Davidson, and Ernest S. Lewis, 1879. |
| 6 | In 1832. | Thomas Cottman. | Ascension Parish. | Recov'd | Dead. | The Operator, in 1878. |
| 7 | In 1838. | A Drunken Midwife | North of N. O. | Recov'd | Saved. | N. O. Med. and Surg. Jour. Vol. XI, p. 13. |
| 8 | In 1846. | J. A. Scudday. | Thibodeaux Parish. | Recov'd | Alive. | N. O. M. and S. J. 1850–51 Vol. VI. p. 355. |
| 9 | May 17, 1849. | J. A. Scudday. | Thibodeaux Parish. | Recov'd | Saved. | N. O. M. and S J. 1850-51 Vol. VI, p. 355. |
| 10 | July, 1849. | Thomas Cottman. | St. James Parish. | Recov'd | Dead. | N. O. M. and S. J. 1851. Vol. VII, p. 337. |
| 11 | Jan. 30, 1850. | Vincent Boaqui. | Near Opelousas. | Recov'd | Dead. | The Operator, April 15, 1871. |
| 12 | May 10, 1851. | Daniel B. Gorham. | Bayou Sara. | Recov'd | Saved. | N. O. M. and S. J. Vol. VII, p. 194. |
| 13 | 1857. | A. T. C. Langenbecker. | New Orleans. | Died. | Saved. | N. O. M. News & Hosp. Gaz. 1857, p. 555. |
| 14 | Aug. 25, 1860. | J. C. Egan. | Bienville Parish. | Recov'd | Dead. | N. O. M. & S. J. July, 1877, p. 35. |
| 15 | Jan. 1860. | Beauville Claverie. | Donaldsonville. | Died. | Dead. | Dr. John F. Duffel, Donaldsonville. |
| 16 | July, 1866. | Moody. | Athens, Claiborne Parish. | Recov'd | Dead. | N. O. M. and S. J. July, 1877. |
| 17 | Dec. 21, 1867. | H. C. D'Aquin and D. Warren Brickell | New Orleans. | Recov'd | Dead. | N. O. M. and S. J., 1868. Vol. XXI, p. 454. |
| 18 | 1873. | Trudeau and Felix Formento. | New Orleans. | Died. | Dead. | Dr. Ernest S. Lewis, March 5th, 1879. |
| 19 | Aug., 1873. | Chas. and Gaston Bordis. | Near Napoleonville, Assumption Parish. | Recov'd | Dead. | Drs. Thos. B. Pugh, Bertie, La., Aug. 21, 1879. |

It will be seen that nine cases were published, and ten not. The twentieth operation, which I have rejected, was claimed with every appearance of truth, as a cæsarean case, by one of the parties present at operation 11, which he also asserted in numerous letters to have been his own. So strong, in fact, was the testimony brought by Dr. Pilate to establish his claim to case 11, and so weak the opposition, that he was at one time credited with having performed two cæsarian sections, as he insisted he had done, on the same woman. The late Dr. Frederick Acher, also present, wrote out two accounts of operations performed by *him* on this same woman, the first cæsarian and the second a laparotomy, for the removal of a utero-abdominal pregnancy of a very unique character, the placenta being in the uterus; the cyst and its contents in the abdominal cavity, with the cord and membranes passing through the ununited incision made in the uterus by the knife in the cæsarian section. Dr. Acher sent this record of his to his native city Lyons, and it appeared in the *Gazette Médicale de Lyon*, after having been presented before a medical society by Prof.

Bouchacourt, in 1860. I have had the original of this communication sent to me to read, by Dr. Bouchacourt, and have now a copy of it.

Dr. Boaqui was unfortunately a poor witness for himself against these two claimants, but finally obtained justice, by the fortunate discovery of two leaves of an old ledger among some waste papers, in which were the entries made at the time of his two operations in 1850 and 1851. The second operation was a laparotomy after rupture of the uterus, and performed on July 30, 1851, and from this the woman also recovered. On May 4, 1853, she ruptured her uterus a second time, and Dr. Boaqui operated upon her post mortem, as she was dead when he arrived. He attributed her death to hœmorrhage, and thought that the placenta was seated in the line of rupture.

I was thirteen months in getting at the truth of this case. There were four physicians present at operation 11, and only one made no claim to it. Thinking to find an impartial and truthful witness in him, I sent a letter to him at the south of France, in which I gave the three claims as sent to me from Louisiana, Ohio and Lyons, and asked him to send me the "exact truth," which in his answer he claimed to have done, making both cases cæsarian, and giving the first to Acher, and the second to Pilate. This writer, Dr. Dabrin, also confirmed all that Dr. Pilate had written to me about the second operation. I was satisfied, from the habits of Acher, that he had not operated, and the finding of the old leaves settled the claim against Dr. Pilate, who ceased his communications after I sent the papers to show him by a medical friend. He expressed no desire to see the evidence against him. The combined, cunningly claimed indifference, and yet pertinacious adherence of this man of seventy-five, with the wonderful evidence he presented from the vicinity of the operation, were calculated to deceive any one, as they did deceive Dr. Reeve of Dayton, several of my medical associates and myself. I am, therefore, all the more ready to do justice to Dr. Boaqui, in re-establishing for him the claim that I gave him in the American Journal of Medical Sciences in 1878. I hope there are not many Pilates, Achers and Dabrins in the medical fraternity of Louisi-

ana at the present day. They give a statistical worker, who desires to write correctly, a world of trouble.

*General Summary.*—Operations, 19; recovered, 14; died, 5. Children alive at delivery, 9; dead, 10; soon died, 1. Women operated upon twice, 2—all four children alive; one died in a few minutes. Parishes of Ascension and St. James, 7 operations; New Orleans and vicinity, 5. Unpublished cases withheld respectively, 53, 48, 46, 21 years, etc.

713 LOCUST STREET, PHILA.,
February 13th, 1880.

## The Hypodermic Administration of Ergot.

By A. C. LOVE, M. D., Donaldsonville, La.

It is probable that no single drug mentioned in the materia medica presents such a checkered history as ergot. Employed for its parturifacient property, it was long known as the *mutterkorn* of the German midwife, and in the latter part of the seventeenth century, Carmerarius and Bantzmanni lauded its virtues. In France, in 1774, because of its reputed violent action, its administration was prohibited by legislative enactment. In 1807, Dr. Stearns, of New York, recalled the attention of the profession to it, but for years, among the best authorities, there existed great difference of opinion concerning its efficacy as a parturifacient. Many declared it wholly inefficacious, while Mde. La Chappelle dealt it the ironical thrust: "Its innocence is its great virtue."

But by reason of that property which ergot possesses, of exciting contraction of involuntary or unstriped muscular fibre, which has been satisfactorily demonstrated by numerous experiments, it has become one among the most effective remedial agents of modern therapeutics. Though, until late years, the favorite field for its operations was the gravid uterus, yet, acting as it is supposed to do, through the nervous centres and exciting the contractility of the middle coat of the

arteries and the elastic membrane of the capillaries, it exerts an influence over the whole circulatory system. Besides, the field of its action embraces the trachea and the bronchial tubes, the ducts of various glands and the iris, part of the œsophagus and the stomach, the intestinal canal and the bladder, and last, but not least, that great and involuntary muscle, the heart.

Though ergotine, or Boujean's purified extract, has been recommended as the preferable preparation for subcutaneous injection, and marked benefit has resulted from its use in cases of hæmoptysis (Dr. Ritchie, *Ed. Med. Jour.*, February, 1872), hæmatemesis (*Ed. Med. Jour.*, Dec. 1871), varicose veins (*New Rem.*, Oct., 1872), and aneurism (Langenbeck, *Am. Jour. Med. Sci.*, July, 1869); yet the administration of Squibb's fluid extract hypodermically in a case of black vomit is reported as having proved happily efficacious (Dr. S. S. Herrick, *N. O. Med. and Surg. Jour.*, Oct. 1878).

It is, however, the object of this paper only to notice recorded cases of its hypodermic use in the lying-in chamber, and to make brief mention of two such cases in the writer's practice.

In cases of labor, where there was much irritability of the stomach, Villeneuve preferred an infusion of ergot given by enema (*Waring's Ther.*, p. 253). In a case of post-partum hæmorrhage, Dr. Fred. D. Lente injected twenty-five drops of Squibb's fluid extract under the skin of the thigh; and, though various other measures had signally failed, this readily checked the flow of blood (*Med. Rec.*, Nov. 15, 1869).

### Case I.

February 6th, 1879—M. R., aged 16 years, and arrived at the full term of pregnancy, fell from a doorway the distance of five feet, her forehead striking on a brick pavement. She was found in an insensible condition and carried to her bed; applications of cold water were made to her head, and during the night labor pains set in, accompanied by convulsions. At 11 o'clock the following morning she was seen by me. Over the site of the right frontal prominence there was an œdematous enlargement; but, so far as could be ascertained from careful manipu-

lation, no fracture of any one of the cranial bones. The os uteri was in a flaccid condition, periodical contractions imperceptible, the pulse full and rapid, and convulsions recurring at intervals of fifteen minutes. An attempt was made to administer hydrate of chloral *per orem*, but signally failed on account of the unconscious condition of the patient. Resort was made to the lancet, several ounces of blood, were taken from the left arm and the convulsions ceased. There still being no evidence of returning uterine contractions, fifteen drops of the fluid extract of ergot (U. S. P.), diluted with warm water, were injected subcutaneously over the deltoid muscle of the left arm. Within ten minutes uterine contractions were excited, and their regularity and increasing vigor gave encouragement for a repetition of the dose after the lapse of twenty minntes, and the labor was conducted to a successfnl termination.

### CASE II.

May 22d, 1879—Was called to see C. G., aged 32 years, the mother of two children and now in the sixth month of gestation, threatened with miscarriage. For months she had been in delicate health and troubled for several days with a sanguineous discharge from the vagina. On the day previous to my visit, she had experienced labor pains which attained their maximum in a few hours, and gradually subsided without relieving the uterus of its contents. The os uteri was found in a relaxed condition that admitted the introduction of two fingers, the membranes already ruptured and the amniotic fluid escaped. A partially detached placenta afforded a constant flow of blood from the os uteri, and the offensive odor emitted justified the surmise, soon verified, that the fœtus was undergoing decomposition. Fifteen drops of the fluid extract of ergot were given hypodermically, the uterus aroused from its dormant state and periodical contractions excited. As the loss of blood continued, the forceps were applied to the head of the fœtus as soon as it cleared the os uteri, and by gradual traction during the periods of contractions, the delivery was hastened. The injection of ergot was repeated, the partially detached placenta peeled from the wall of the uterus with the finger, the uterine nozzle

of a Davidson's syringe introduced and the cavity of the womb cleansed with a copious injection of warm water. The uterus contracted firmly and the patient recovered without experiencing any septicæmic troubles.

In cases of confinement, where from any cause speedy delivery is desirable, or where life is endangered by post-partum hæmorrhage, so far as my limited experience justifies me in urging it, the subcutaneous administration of ergot should be regarded as the preferable measure for adoption.

## Reflex Sciatica and Lumbago Cured by Removal of Cause, Stricture of Urethra.

By T. S. DABNEY, M. D., New Orleans, La.

On February 16th, Mr. C., æt. fifty, of powerful frame and vigorous constitution naturally, came from the country to put himself under the treatment of Dr. Sam'l Logan and myself. Twenty years ago Mr. C. had a severe attack of gonorrhœa, which persisted for many months, in spite of due treatment. He suffered no ill effects from this persistent gonorrhœa, until five (5) years ago, when he was compelled to quit work on account of a severe attack of lumbago and an incessant desire to micturate.

At times micturition was extremely painful and could only be accomplished whilst taking a hot hip bath. Attacks of sciatica, lumbago and other neuralgic affections of more or less gravity, have occasioned him much trouble since his first attack, five years ago. He spent several months at Hot Springs; he has been under the treatment of physicians in Nashville and New Orleans—not to mention several most excellent country physicians, and yet not one of his medical attendants ever suspected the *cause* of his neuralgias, and consequently they all adopted the palliative plan of treatment.

About three months ago his sciatica and lumbago forced him to keep his bed, where he was kept under the influence

of morphine most of the time. His sufferings are represented as having been extremely great. As soon as he could hobble around on crutches, with much pain and difficulty, he took the cars and came to my office. At one o'clock, on the 16th ult., I took him to Dr. Logan's office. We first carefully examined the urine with chemical reagents and under the microscope; but failed to get any clue to his disease. We next carefully explored his bladder for stone, but found none. Then with an olive pointed bougie we examined his urethra for stricture. We found two—one just behind the meatus, the other in front of the bulbous portion of the urethra.

The patient was at once put on full doses of quinine and opium and was sent to his room to rest until next day. The passage of instruments in our examination entirely relieved all neuralgic symptoms for several hours. Next day, 17th, we found it necessary to cut with a bistoury the first stricture; the other, we determined to dilate. From the moment the front stricture was cut, all pain vanished to return no more. In ten days we were able to pass a No. 14 steel bougie through the bladder. On the fourth day we put our patient on the following prescription, as he needed a tonic badly.

℞ Quiniæ Sulphat.
Ferri Redacti, ā ā 3j;
Ext. Belladonnæ, gr. v;
Ext. Rhei, 3j. M.

Make into pills xxx S. One three times daily.

We passed a bougie every second or third day. In three days from the time of his arrival he was able to walk without pain or stick. His general health rapidly improved. On the 16th he came to New Orleans on crutches; on the 22d he walked three miles for recreation. We taught him how to use the bougie, and having advised him to continue taking the prescription we gave him, discharged him on the 27th of February—cured.

He was in town to-day, 17th March, and said he was as well as ever he was in his life. He commenced work again on the first day of March, and has been working hard ever since.

# CORRESPONDENCE.

CLINTON, LA., Feb. 1st, 1880.

*Editors New Orleans Medical and Surgical Journal:*

GENTLEMEN—It may be presumption on my part, being only a country doctor, to differ in opinion with "A Fellow of the Academy of Sciences of New Orleans," nevertheless, I make bold to do so, and feel it a duty to make public my opinion, when I can give, as I think, good reasons for the same What I refer to, is the lecture of U. R. Milner, M. D., before the Academy, November 16 and December 18, 1879.

Gen'l G. W. Munday, one of our representatives in the Legislature, sent me a copy of the lecture. It is very interesting and very instructive, and I shall only take issue with him on one position. He says yellow fever is *not* contagious. I say yellow fever *is* contagious. I shall not undertake to dissect his lecture, or dispute any of his statements, or give any opinion in reference to the character of the disease, except as to the contagiousness of the same.

A. T. Semmes, M. D., of Canton, Miss., in a very edifying article published in the December number, 1879, of your journal, on page 594, makes the following remark:

"With regard to contagion, our epidemic of 1878 has completely *confounded* my opinion." I take the privilege of reiterating the same, with the exception of one word. Instead of *confounded*, I would say *changed*. I did not believe, previous to 1878, that the fever was contagious, although the epidemics of 1853 and 1867, and also sporadic cases in 1854 and 1855 in this parish presented many points that were stumbling blocks in the way of believing in the *non*-contagious character of the fever.

I give, as the reason of my belief, stubborn facts that can be proven. Of what I write now, I made a report in November, 1878, to the Yellow-fever Commission, through Prof. Bemiss. The report was very imperfect, as likewise is this communica-

tion, owing to the difficulty, situated as I was, of taking notes of the cases under my care.

In 1878 our parish was visited by the scourge, and 96 cases came under my observation. The cases were all in the country, and, in order to give them proper attention and not neglect other duties, I was compelled to ride from 30 to 40 miles every 24 hours.

They were confined to four plantations, and 95 of the cases could be traced to actual contact with individuals sick with the fever. By contact, I mean in the room with a yellow-fever patient long enough, had it been small small-pox, to have contracted the disease, had the individual been liable to it.

Of those *directly exposed*, and *liable to be taken if in a yellow fever atmosphere*, only one escaped, and he was a nurse, in good health and very particular to keep himself so. I speak hereafter of three children in one family not getting sick, but they were not *directly exposed.*

Previous to the first case, September 7, Clinton and the country around for ten miles were unusually healthy. During the prevalence of yellow fever there was but little sickness outside of those four plantations. What there was, was of a character likely to occur at any season of the year, as bowel complaint, mild intermittents, etc. The first case was the landlord of a plantation five miles from Clinton, who *at the time* was not known to have been out of the parish for some time. This of course surprised us all. The thought of yellow fever did not at first enter any mind. As his case progressed, I felt that, if it were possible for the yellow fever to break out suddenly in a healthy section of country, this man must have it. He died, and even then I could not feel convinced that it was really yellow fever, until others took it who had nursed him. It was thought that he might have caught it from opening blank books for registration that he had received from New Orleans, he being clerk of the registration board. It was ascertained, however, some time after the fever was over, I believe in December, that he had visited Baton Rouge and New Orleans. From that place it spread, not in an epidemic

over the country, but only from those visiting as friends and nurses. The people here were, as all over our land that year, panic-stricken, fear preventing the usual visiting; and it was, therefore, confined to the before-named four plantations. One exposed to it, and not resident of the house where it was, would, on feeling sick, go to his or her home; then the whole family did, one after another, and sometimes more rapidly take it. Whites and blacks on other plantations would not visit the sick, and therefore did not get sick. So far as cleanliness was concerned, the houses of the sick were as clean before the fever as the houses of the well.

Not an individual had an attack who was *not* exposed to it.

One gentleman who lived two miles west of Clinton, and seven miles northwest of the house where the first case occurred, after assisting in nursing and burying an old friend about five miles further off, went home, and in a few days was taken down. His family was composed of himself, wife and four children. He sent for me immediately. I found him up-stairs, his wife and oldest child, a daughter, about 12 years old, in the room; the three younger children out in the yard playing. Having by that time been converted to the contagion theory, I insisted on those children not going up-stairs, and not even being with their mother or sister, except after they had been out in the air or otherwise freed from the fever germ. These three children escaped; the other child (12 years old) had a severe attack; the mother, a healthy lady and very prudent, took small doses of quinine every day and escaped with a light attack.

Now if the disease is not contagious, why was it so limited?

Why did nearly all who never had an attack catch it after being exposed to it?

Why did not people living less than one-eighth of a mile from where it was, who did not come in contact with individuals sick with it, escape?

There was scarcely an individual in that section of the country who had ever had it.

That it was yellow fever, I know. My first experience was in 1853. I was one of the many cases in Clinton that year. It

was the first year of my practice in this place. I saw then at least 300 cases. After that, previous to the war, I saw a number of cases. In 1867 we suffered from as severe an epidemic as in 1853, and during nearly all the time the whole burden of medical attention fell upon me. I agree with Dr. Milner, in the necessity of local sanitary measures, not solely to prevent yellow fever, but as far as possible to prevent all sickness, and reach as near as possible that condition so beautifully described by Dr. Richardson, of London, Eng., as "Salutland." I have written this from strong convictions of duty, "*pro bono publico.*"

Yours truly,

O. P. LANGWORTHY, M. D.

# CURRENT MEDICAL LITERATURE.

## TRANSFUSION OF BLOOD THROUGH THE PERITONEUM.

From the *Indipendente of Turin*, February 25th, 1880.

(Translated by Dr. JNO. DEL'ORTO.)

We have to register another triumph of modern experimental investigation. Professor Ponfick of Breslau performed last year the operation of transfusion of blood through the peritoneum in three patients, with very satisfactory results.

The experiments, that he had previously made on dogs, had convinced him that all the blood injected in the abdominal cavity is immediately absorbed, and brought into the current of circulation, as no trace of blood was found in this cavity in the autopsy, nor any hæmoglobinuria appeared in the excretions of the animals.

Later the same experiments were pursued on rabbits by Professors Bizzozero and Golgi of Italy, who obtained the same results, that is, twenty minutes after the injection, a remarkable increase in the quantity of the circulating blood corpuscles is noted by the *chromocitometer* (an instrument invented by Bizzozero, through which the quantity of *hæmoglobine* existing in the blood is measured with a perfect exactitude). On the 29th of January of this year Doctor Golgi had occasion to try the experiment on a sick man.

It was in the insane asylum of Pavia—a gentleman affected with *lipomania*, reduced to a state of extreme anæmia. The

therapeutic agents administered having proved useless, the doctor thought of the transfusion of blood through the peritoneum. The relief was immediately felt by the patient.

The instrument for the injection, as well as the mechanism of the operation, is very simple and easy: a metallic canula with a spout communicating with a gum elastic tube, at the end of which a glass funnel is applied. After having closed the spout, defibrinated blood is thrown through the funnel in this apparatus; the canula is pushed into the abdomen at about 2 inches under the navel in the linea alba, the spout is then opened, and the blood goes spontaneously and smoothly into the peritoneum. The spout is closed again, the canula withdrawn, and the wound dressed with simple sticking plaster. In this case the quantity of blood injected was 300 cc—the operation lasted 12 minutes.

The pain and the consecutive fever were very slight.

The following are the measures of the hæmoglobine as taken by the *chromocitometer*.

| | |
|---|---|
| Before the operation—hæmoglobine .... ... | 35.8. |
| 18 hours after the operation—hæmoglobine, | 44.1. |
| 30 " " " " " | 48.6. |
| 40 " " " " " | 51.1. |
| 2 days " " " " | 52.3. |
| 3 " " " " " | 53.9. |
| 4 " " " " " | 54.4. |
| 5 " " " " " | 50.1. |
| 6 " " " " " | 52.3. |
| 9 " " " " " | 55.5. |
| 11 " " " " " | 55.0. |
| 14 " " " " " | 57.9. |

It is evident, that the increase of the hæmoglobine in the last days is directly due to the improvement in the general constitution. The patient had now a good appetite.

It would be rather premature now to speak of the advantages that may be obtained from this method of transfusing blood into the human system. It seems, however, certain that in many respects it ought to be preferable to the other method through the veins—1st, for its simplicity; 2d, for the greater amount of blood that may be injected through the peritoneum, and finally, for the less risk in causing shock or embolism, that always makes direct transfusion a very dangerous operation.

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## RELATION OF EPILEPSY TO INSANITY.

By J. L. Cleveland, M. D., Cincinnati.

There are some points in reference to the influence of epilepsy upon the mind that are generally conceded. That, as a rule, repeated attacks of epilepsy have a tendency to weaken the

mind of the individual, and may eventually produce dementia, or even positive insanity. Trousseau, in the following paragraph, graphically pictures the epileptic constitution: "The functions of organic life are impaired and become languishing. Epileptics are subject to cardialgia, flatulence and spontaneous lassitude and trembling; they have a tendency to venery and onanism; they do not, as a rule, live to an advanced age. The cerebral function, the intellectual faculties become more and more degraded."

Exceptions to these well known conditions are recorded and some of them are historical, where the intellectual faculties were not impaired in the least, but on the contrary, the neurosis seemed to have heightened the intellectual power (Cæsar, Mahomet, Napoleon and Swedenborg are said to have been epileptics). But we are all witnesses to the general truth of the proposition, that repeated attacks of epilepsy have a deteriorating effect both upon the mind and body, that it degrades the body, the mind and the moral nature. The above is generally admitted. It is the medico-legal aspect of the question that we wish especially to dwell upon; as to the criminality of possible deeds of violence committed by epileptics, and as to the influence of epilepsy in predisposing to crime.

Is there anything in the epileptic neurosis that predisposes to crime? It may be remarked here that the condition usually expressed by epilepsy does not cover the ground fully that properly belongs to this question. By epilepsy we mean that peculiar state in which there is a sudden and complete loss of consciousness, associated with convulsions. In addition to this, we should include those kindred conditions, masked epilepsy, epileptic vertigo, absence, ecstacy, catalepsy, and possibly somnambulism and hysteria. These may all be classed together as the epileptic neuroses. This classification will be granted, when it is considered how nearly related all of the above mentioned conditions are to epilepsy and how frequently they precede it, pointing to its approach or even occuring in conjunction with it. It is estimated in Reynold's System of Medicine that in epileptics (properly so-called) $\frac{1}{3}$ of the cases have perfect average mentality, that is, their minds are not perceptibly affected by the attack. This would leave $\frac{2}{3}$ of the class whose minds are more or less affected by the disease. The same author informs us that of epileptics about .10 are insane.

This much can be stated as positive, that some epileptics may pass through life, attend to business and not be visibly affected mentally or physically by the infirmity, but in most cases the mind suffers in memory or reason, or both, producing in some cases harmless dementia; while in another class mania is developed either preceding, coincident with or following the attack.

The medico-legal aspect of this subject is most important, whether considered in reference to the testamentary capacity

of the epileptic or to his responsibility in case of crime. We wish to consider only the latter at present.

In order to introduce the subject, let us suppose that a murder has been committed, and it turns out that the murderer is an epileptic, what bearing should this fact have before a court of justice? Does the fact that he is an epileptic free him from the consequences of his crime? It does not, for some epileptics are as responsible by virtue of their mental and moral integrity as any other class of men. But it does raise a very important doubt in favor of the murderer. The disease may have rendered the criminal weak-minded, so that his will-power was insufficient to govern his passions under provocation, or maybe his epilepsy may have been attended with insanity, and the man was insane when he committed the crime. If it can be proved that the crime was objectless, entirely without motive, this would settle the question of responsibility. But perhaps this epileptic has always been considered of sound mind and good average capacity. But he is an epileptic, and may not the influence of passionate anger developed in him a condition of epileptic insanity? No one can doubt but that such a thing would be possible, but it would be impossible to affirm positively that such was the case. Suppose the criminal should affirm that he was unconscious at the time, and did not know that he had committed the deed until he was informed of it afterwards. If this could be proved, it would only be in accordance with the epileptic neurosis. But it turns out there is method and evident deliberation in the murder. Is there anything *per se* in the epileptic constitution that would cause the individual to nourish resentment and plan revenge? In that respect he would stand on the same ground as other people. He loves, he hates, he cherishes revenge. But there is this difference, his infirmity has made its impress on him. The epileptic is an unknown and uncertain quantity, because his attacks are possible at any time. Frequently before and after the attack his disposition changes; he is moody, suspicious, melancholic, apprehensive; often quarrelsome; easily offended; and clinical history tells us he may even plan and execute revenge, though fortunately he is usually kind and inoffensive. Sometimes he is subject to ungovernable outbreaks of passion. His will-power is deteriorated and shattered, and for the time he may be like the savage entirely under the influence of his passions.

Maudsley and Trousseau dwell upon the furious character of epileptic mania. The disposition to destroy something animate or inanimate seems to be irresistable. Of course, if it can be proved that the epileptic was insane at the time he committed the murder, the question of responsibility is decided.

The murderer may have what is called masked epilepsy, that is, there may be no convulsions.

"Instead of the morbid action affecting the motor centres,

the mind centres are seized upon, resulting in a paroxysm of mania, producing what Maudsley speaks of as an epilepsy of mind. These are described as coming on suddenly, the same as epileptic attacks, and disappearing rapidly in a similar manner, and during th eattack the sufferer is said to be unconscious of his actions.

Epileptic insanity manifesting itself chiefly by irritability, suspicion, moroseness and perversion of character, with periodical exacerbations of excitement, in which visions and criminal acts are committed, showing itself in fact in a profound moral and affective derangement, may occur periodically from time to time, for months or even years before distinct epileptic fits declare themselves, these at last making their appearance and supplying the interpretation of the previously obscure attacks of recurrent mental derangement. Morel has pointed out that some cases of suicidal and homicidal mania are really cases of this kind, in which an epileptiform neurosis has existed for a long time in an undeveloped or marked form."

A case is mentioned where a man had had epilepsy in his youth, none having been noticed for forty years. There was nothing especially noticeable in him except an inclination for good living and a condition of exaltation in the spring. One day he suddenly stabbed his aged mother in the throat several times, and when she fell down sat upon the body and stabbed her repeatedly. When he was seized, he exclaimed, "She is a villain who has done me all the injury possible; I ought to have killed her long ago." There was no discoverable motive for the crime, but it was discovered that for several years, during the periods of exaltation in the spring, he had reviled his mother and threatened to kill her, and the date of the murder corresponded to the period of exaltation. Another interesting case is narrated where an epileptic had ceased to have convulsions, but in place of these was developed an irresistable impulse to commit murder. The sufferer was conscious of his terrible condition. When the impulse seized him, he said he felt as though he must kill something, if it were only a babe. To his mother and father, whom he loved dearly, he would cry in a loud voice, "Save yourselves, or I must strangle you." When it was over, he cried, "Unloose me, alas! I have suffered greatly, but I am well out of it, since I have killed no one."

I quote further from the same author illustrating the epileptic neurosis: "The form of mental disorder which corresponds to the *petit mal*, or epileptic vertigo, may be described as a great confusion of ideas, accompanied often by instantaneous impulses to violence. Those afflicted by it become sad and morose without any cause in external circumstances, are profoundly distressed, and exhibit much irritation against those who are about them, suffer from loss of memory and dullness of intelligence, so they cannot collect and fix their thoughts, feel sadly that they are no longer themselves, that they are impelled to strange or violent acts by a power they

cannot resist; oppressed by a strange anxiety or dread, they leave their homes and wander about the street or country; all the painful ideas which they have conceived of at different periods of their lives come back and fasten upon their minds; they are overwhelmed with a vague anxiety and terror. In this state of confusion and distress they accuse their friends of hostility and imagine persecutions which have no existence out of their morbid fancies, and they do unlawful deeds, such as theft, incendiarism, suicide or homicide; some relieving themselves by destroying inanimate objects, others killing themselves in order to get rid of their anxieties and fears, and others attacking in a blind and desperate manner persons whom they chance to meet when their terror and distress render their impulses uncontrollable.

The deed of violence done, either there is immediate relief, the indefinable anxiety and confusion of ideas disappearing, and they recognize what they have done, or they continue in a state of excitement, unconscious or very imperfectly conscious of the gravity of their acts. When they come to themselves, their memory is uncertain and confused, like that of a person awaking from a terrible nightmare; they may remember the acts in a fragmentary way when they are recalled to their minds or may deny them altogether. Let him who would realize, so far as it can be done by a sane mind, the mental state of those afflicted beings, try to recollect the most painful dream he ever had; let him reflect upon its grotesque inconsistencies, the blest relief which he experienced when he awoke and found it was a dream; the fragmentary remembrance which he retained of it and the little desire which he had to live it over again in memory; let him then suppose it to be no dream, but conceive himself to be overwhelmed by the horrible nightmare day by day, and to be as he surely would be, incapable even of the hope of relief; what cry would then suffice to express his agony and despair, save the cry of supreme agony, "My God! My God! Why hast thou forsaken me?" What act, save an act of suicide. We should not apologize for crime, but we should have as clear an understanding as possible of the organic weakness of the human body. Nearly related to epilepsy are somnambulism, catalepsy and hysteria, these conditions constituing a well defined neurosis; and in case of the commission of crime, the fact that this neurosis exists, will very properly open up the question of possible alienation at the time of the commission of the crime. Cases are on record where somnambulists have committed murder. The fact that vicious criminals may and do similate these conditions should only stimulate us to investigate this subject, further and see if it be true that epilepsy and kindred neuroses, when they are found to exist in a criminal, are a sufficient reason to question his responsibility. That it opens the question of responsibility there can be no doubt, and that

this plea has more than once cheated the gallows of its own is beyond peradventure, nor can there be any reasonable doubt but that, from ignorance of this subject, many a luckless unfortunate has been hung while innocent of the crime imputed to him.—*Cincinnati Lancet and Clinic*, Jan. 17.

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## THE JOHNS HOPKINS UNIVERSITY AND HIGHER EDUCATION, WITH A GLANCE AT THE HOSPITAL BUILDINGS.

By George Halsted Boyland, A. M., M. D.

Hippocrates complained of affairs, educational and professional, at Athens. A few centuries later, in the Augustan era, distinguished alike for its science, art, and literature, it was the custom to praise the past at the expense of the present. In the nineteenth century civilization and culture have attained such a high standard that the reverse is the case, and the present is praised at the expense of the past; at least, it is so with the authors of certain pamphlets and articles that within the past year or two have made their appearance in our current literature.* These productions, whilst deploring the low status of the medical profession in particular, and the mismanagement of American universities, medical colleges, and institutions of learning in general, impress strenuously upon the public mind the glaring necessity for a more elevated *esprit de corps*, with greater scientific attainments among practicing physicians and professors, together with the urgent need of a higher standard of education in every department. These depreciators hold, in some instances, diplomas of the very institutions they cry down, and are among the first, when perplexed, to call in consultation the more aged and experienced members of a profession whose status at other times only merits their contumely. The strifes and jealousies of rival schools are brought to light and dwelt upon.

And now, amidst all this educational anarchy, appears the Johns Hopkins University, with its brilliant array of talented professors and tutors (embracing some foreigners), to rescue our institutions, both general and special, from the total wreck that threatens their systems. Just as the Renaissance

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* In the following article the author has made free use of the programmes of the Johns Hopkins University and of the Fourth Annual Report, edited by President Gilman, inorder to show from them directly the relation of the new university to other institution sof learning, especially to the medical schools and the medical profession of Baltimore. The discussion on this point is just now going on with considerable vigor. The most striking article that has yet appeared is a pamphlet by John S. Lynch, M. D. This gentleman, for years a practitioner and professor of medicine in one of our leading colleges, ably handles his subject, and depicts the true condition of educational and professional affairs in our city. He has "seen none of the evils" denounced and deplored, but has noted many improvements and advances; among them are the establishment of several hospitals for the treatment of special diseases, the establishment of an out-door clinic at which more than thirty thousand patients are treated annually, courses with the use of the laryngoscope and microscope, etc. The increased number of professors in our medical schools, the high standard of the profession and their many and valuable contributions to literature, as well as their thriving societies, will give the gist of Dr. Lynch's article, which is heartily indorsed by all with whom the writer has spoken.

of arts and letters was commenced by the savants and artists of Byzantium, who, after the capture of Constantinople by Mahomet II, emigrated to France and Italy, and really did for them then what was later ascribed to the munificence of the De Medicis and François Premier. Such is the picture drawn of affairs, professional and educational, in their relation to the Johns Hopkins University, a production varying in ability according to the talent of the artist, but not true to nature, as will presently be demonstrated. Ten years ago the standard of educational requirements had made great advances as compared with the preceding decade, and from then up to the time of founding the Johns Hopkins University it had been raised higher and higher, until the utmost was required of students, until examinations became more frequent and more stringent, and until admission examinations were instituted in our medical schools. In a word, during the last twenty years the rise and progress in medical, scientific, and academical education has been so gradual, yet so steady and so sure, that our present fault-finders, not perceiving it, have alone remained behind, ignoring the fact that we had, when the Johns Hopkins University was founded, a system of training in our universities, schools, colleges, and academies comparing favorably with those in any part of the world. This university of the future begins, then, where the others end, and comes to us as the natural outgrowth of advanced civilization and education, as the child of the elder ones, not inventing any new or patent method of intellectual schooling, but taking what is best from this one and that one, and what is deemed best adapted to the requirements of higher education.

The medical department, though not yet fully organized, will, it is understood, be represented to some extent by physicians and surgeons from our own city, and Baltimore can pride herself on having the varied talent, the many distinguished men, as well as the learned and ethical general profession belonging to a great medical centre, in which original research is encouraged, and the science and art of medicine are improved.

It was ascertained that much of the regular four year's college course could be omitted, especially by those intending to follow scientific or medical pursuits; consequently seven very concise courses of three years each are open to students as regular collegiate courses, which thus allow them to enter upon the university course, whether it be law, medicine, or theology, one year sooner. These seven courses are varied to meet the wants of all, and such branches are taught in them as bear directly upon the student's course in the future. Much stress is laid upon modern languages throughout, also upon philosophy and chemistry during these three years, whilst the introduction of biology into the preparatory medical course is an entirely new feature. It is well known that this is almost the last branch

taught in foreign universities, but a study that requires such particularization may be useful as a disciplinary agent at first, not forgeting that an acquaintance with morphology should form an important part of a course preparatory to the final study of medicine; moreover, the mind of the student will have been sufficiently trained by his schooling in chemistry and physics during the first year to grapple with a subject that hitherto has erroneously been thought worthy of introduction only near the end of a five or seven years' university course. At the close of the third and last year of this preparatory course, which includes also German, English literature, history, and psychology, it is proposed to confer upon the successful candidate the degree of M. B., and thus give to this diploma a value in America. Although the recipient will not rank as does the English "medical man" who may practice upon it, yet it will be an advance in our educational gradations, and the American interpretation of the initials M. B. will probably be the more correct of the two. The biological course, which cannot be overestimated, will be one of wide scope, embracing the laws of life in general, whether exhibited in animals or plants; it is designed at the same time to give students at least a didactic knowledge of human anatomy and physiology; comparative anatomy and botany will not be required, as their general principles and more important facts are taught in the course of general biology. It will thus be seen that the student after such a course will be well advanced in his professional studies, and that the science of medicine proper will present to him fewer difficulties. It is of course understood that work in the physical and chemical laboratories forms a prominent feature in the schedule.

With respect to medical instruction in connection with the Johns Hopkins Hospital, the plan has not yet been definitely agreed upon by the trustees, but we may be sure that whatever system is determined upon will not be in imitation of any one routine, but will comprise what is best from the best. That this has been a ruling principle in the university organization throughout, the following lines from the Fourth Annual Report of the Johns Hopkins University, by the president, will attest. After referring to the extension of its influence beyond provincial limits, he says: "Having these aims, the next question to be considered was the interior organization of the university: should it follow an American, an English, a French, or a German model; or should it gather from many sources educational methods to be adapted to the wants of this country, and brought into harmony with our conditions, political, ecclesiastical, and social? There was no hesitation on this point. The new foundation was to base its operations upon the experience of many and diverse institutions, ascertained by inquiries at home and abroad, among the most enlightened teachers and administrators."

Little has been said of scientific apparatus in this connection, but when we state that $27,761 have been expended in that direction, it will be readily understood that such appliances have been purchased of the best European and American makers, with especial reference to researches in regard to electricity, magnetism, and heat.

Another advance in higher education is the system of fellowships for the purpose of affording to young men of talent, from any place, an opportunity to continue their studies in the Johns Hopkins University, while looking forward to positions as professors, teachers, and investigators, or to other literary and scientific vocations. These Fellows are appointed by the trustees, and submit to examination; a small stipend is granted to them.

The new university has been favorably received by the medical profession of Baltimore, many of whom countenance the lectures and patronize the scientific courses.

Almost any day practitioners may be seen in the laboratories, and the library has become a sort of Pierian Spring (new books are kept on a stand and sold at a reduced price after three months), but no more so than the rest of the university, from which those who do not intend to "drink deep" are expected to withdraw. The Johns Hopkins University, recognizing the great benefit to be derived from a literature such as exists in other institutions of the kind, has given out the first volume of the *American Journal of Mathematics*, four numbers being promised annually; also the *American Journal of Chemistry*, six numbers annually. The writings from the biological department have been communicated to the *Journal of Physiology*, published in London and Cambridge. The influence of the university will doubtless be extended to a certain degree by the Fellows, some of whom have been and others of whom will be called to different posts in this country, and by the scientific publications sent abroad. Nevertheless, it is more than likely that its usefulness and reputation will be principally local. Significant is the note that, of the ninety-one collegiate students enrolled during the past three years, almost all come from Baltimore and vicinity. All legitimate means will be employed to gain renown.

But fellowships are not altogether new; neither are university organs. This fact is mentioned in sustaining our claim that the higher standard attained is one that has been raised by the older universities, colleges, academies, and institutions of learning in general, not forgetting the much-abused medical schools, which certainly have contributed their full share in the onward march. The Johns Hopkins University, then, so far from being a deliverer from educational ruin, merely borrows what is best from all our institutions, merely comes under the standard already unfurled by them.

Before closing, let us leave the university proper, and take a

casual survey of the hospital buildings, situated on an elevated piece of land something more than a mile distant. Seen from a distance, this collection of buildings forms an imposing memorial pile, more to the purpose than a sarcophagus of porphyry. For a description of the plan of these buildings the reader is referred to an article on this subject by the writer, and published in the *Journal*, November 7, 1878. It is his intention at present so make a brief survey of the buildings themselves as they are now. The lot on which they are being built is fourteen and a half acres square, and when completed they will be twenty-five in number and in the form of a parallelogram. The main building, being the front, is on Broadway, but only the foundation, which is of brown stone, is laid. The height will be two hundred feet from the marble flooring to the lantern. On the right and left, and distant some sixty feet from it, are the male and female paying wards, each forming a separate building. These wards are arranged in such a manner that all the rooms open on corridors leading to the centre of the building, where is a skylight considerably over one hundred feet high. There are several floors of rooms. The next building in order, going to the left, is the kitchen, the first floor being divided into butcher's-rooms, store-rooms, pastry-rooms, etc.; but the kitchen proper is on the second floor, and is thirty feet by seventy. From this building all the meals will be furnished by means of a car, with hot-water chamber and on india-rubber wheels, pushed from building to building in the long and lofty connecting corridor. This corridor will be of artistic design, and will have a walk on top. Next in order comes the octagon building, so called from its shape. In the middle of this ward is the octagonal shaft to conduct off foul air. The beds will be arranged around this, feet to the shaft, the walls of which will be neatly finished and ornamented with works of art. It is thought that this will rest the weary eye of the patient, as well as break the view in such a manner that the sufferings of other patients will be in a great measure hidden, and their cries and groans during bedside operations more or less deadened. This ward is to be something of an experiment, and the idea has already been carried out in the Massachusetts General Hospital, the only difference being that the square is used there instead of the octagon. At the other end of this ward are small rooms for various purposes, such as sitting-rooms and the like. Then come, at a distance of sixty feet, and at the same distance from each other, three charity wards; the only difference between them and the octagon ward is that they are parallelograms in form. Crossing the lot, the nurses' home is reached, a large, square building—from the basement to the top seven stories high. The lower floors are devoted to dining-rooms, parlors, library, lecture-room, etc., and the upper ones to bed-rooms. There are, then, eleven buildings in process of construction—eight actually

under roof. It goes almost without saying that they are built in the best and strongest manner, with modern improvements, double ventilators, etc. Inside, the staircases are supported by iron pillars, and all the beams and girders are of the same material. The flooring and partitions are of lime, an imported French product, to which sand and cinders are added here. It is put up in large blocks, and the partitions in their present unfinished state resemble stone walls. The tiles, of the same material, for the ceiling and flooring are made so as to fit together between the iron beams and form an arch in themselves, leaving the ceiling and floor perfectly level. The buildings are all of brick, with black pointings, slate roofs, pinnacles, cupolas, and towers. The style selected is the so-called Queen Anne style, and the plan chosen seems to be a mixture of those of the Imperial Hospital of Leipzig, and St. Thomas' Hospital of London. It is hardly necessary to draw attention to the fact that, for the exterior arrangements also, the Johns Hopkins University is indebted to architectural designs already existing, both at home and abroad.

The surgical wards, waiting-rooms, and clinic will form a separate department, and it is suggested to form eventually a school of surgery. The graduates would then receive some such degree as Bachelor of Surgery, Master of Surgery, or Licentiate. If such a diploma should not confer the right to practice, that right could easily be obtained from the Medical and Chirurgical Faculty of Maryland. The domain of gynæcology will probably be included in that of medicine.

As to the length of the medical and surgical courses, the American system of three years is for our country and our needs decidedly the best, and is the one most likely to be adopted by the Johns Hopkins University. That graduates who have studied but three years have a less variety of scientific knowledge than those who have studied five years at a German university, or seven at a French one, other things being equal, is self-evident. But after graduation, in either case, a decade will, as a rule, elapse before the graduate gets into regular practice. During this period, by occasional cases, by reading, and by hospital study, the American will learn much. And it is fair to assume that the Frenchman or German, with his brain more or less overloaded, as he comes fresh from his laureate, will in these ten years have forgotten much in the way of botany, mineralogy, comparative anatomy, zoölogy, and even physics (which branches, except the last named, Huxley says ought to be rigorously excluded); so that time, the great leveler, will put them all on even footing when the hour arrives to enter into the active duties of brisk practice.

Without doubt, the critic will say, there is a certain similarity between the Johns Hopkins University and other existing institutions, just as in writing we sometimes speak unconsciously the thoughts of others. How could it be otherwise?

True, but enough has been adduced to prove conclusively the conditions under which the new university comes into being. That it may be grand and great cannot perhaps be denied; that it is original cannot be pretended; that it will be a success as a flourishing university, with crowded lecture-rooms, the future alone will show. In its struggles for existence it will be armed with wealth and intellect sufficient to place it on a par with, but not above, other American universities and medical schools. The Johns Hopkins University will owe its existence and status directly to an immense fortune that has been in possession of the trustees since the testator's death. But from the realm of departed spirits come back to-day the weird strains of the lyre. Listen: the immortal bard no longer sings alone his "Exegi monumentum ære perennius." It will* owe its intellectual standard to those very American universities, colleges, medical schools, and institutions of learning generally which from personal and selfish motives, too apparent to need further mention, have been ridiculed, as well as to the scientific attainments of the learned professions, especially that of medicine, which has been most unjustly sneered at by a minority so small as to be barely of sufficient consequence to remind that they owe everything to the very men they have sought to undervalue. Let the older institutions of education, then, welcome the Johns Hopkins University; let them take by the hand the child of their adoption, and invite her to march with them in the way of civilization and culture, to walk with them in the paths of knowledge, and to unite with them in the search for truth.

"That which hath been is now; and that which is to be hath already been, and God requireth that which is past."—*Boston Med. and Surg. Journal*, Jan. 29.

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## INSANITY IN ITS RELATION TO THE GENERAL PRACTITIONER OF MEDICINE.

Read at the meeting of the Licking County Medical Society, December 2, 1879,
By W. C. DAVIES, M. D., Granville, O.

In the following paper a general discussion of insanity, in any of its manifold respects, is not proposed. Any one of these respects presents too broad a field for a single essay, and most,

*The future tense is used, because it will be three or four years yet before the hospital can be utilized for the reception of patients, and then a beginning will be made with only fifteen buildings. It is designed to receive four hundred patients. The space in the middle of the lot will be devoted to grass-plots, flower-beds, walks, benches for convalescents, etc., after the manner of many of our hospitals. We have already several large and well-appointed ones here, and with the new one the supply might perhaps exceed the demand. The floral display is evidently intended to be very fine, as in addition to the plots already mentioned, there will be a green-house one hundred and fifty feet long on the hospital grounds. What the precise object of this is I am unable at the present time to state; being left in the dark as to whether the flowers will adorn the beds of sickness exclusively, or whether anything in the way of renown or pecuniary gain is also expected from a source which, though it may be æsthetic, can hardly be considered very lucrative.

if not all of them are fully considered in medical literature accesssible to every physician. Not even will a definition of insanity be attempted, though one perfectly satisfactory would bring lasting honor to its framer, and peace of mind to every one who has stood the fire of cross-examination as an expert in cases involving the question of sanity. Without wasting any words on the question whether a man really *knows* anything which he cannot formulate in words, it will suffice to say that the term insanity conveys to each one of us a tolerably clear idea, though cases might be presented concerning whose mental condition we could not agree. Keeping clear of the "border land" which separates sanity from insanity, it is my sole purpose to offer a few suggestions in regard to our duty in such cases of undoubted insanity as present themselves to us in the routine of practice. The rapid advancement in recent times in all departments of human knowledge has introduced into all the professions, not even excepting theology, the principle of the "division of labor," and has developed "specialists." In fact every man who aims at the highest success is compelled to become, to a greater or less extent, a specialist. This tendency undoubtedly works harm in many ways, and too often secures only an unsymmetrical development. Sometimes, even, the thoroughness of the specialists degenerates into the narrowest and most intolerant bigotry. Still the tendency is irresistible and year by year becomes more fixed. Physicians in the country and in small towns lend their influence to the perpetuation of this state of affairs, for, whenever a case having novel and difficult features presents itself, it is a great deal easier to send it to some noted specialist than to perform the study necessary to a thorough understanding and treatment of it. This teaching of the profession is not lost upon the laity, who, in this respect, at least, are "very apt pupils." Unless we who live in the country qualify ourselves to meet the exigencies of our profession, we have no right to complain if those who should be our patients run off to the nearest city for the treatment of little ailments and the performance of little operations that really require no more skill than is possessed by any bright boy, and little more knowledge.

In no department of medicine has there been a more general disposition to rely wholly on specialists than in the one now under consideration. In so doing, it seems to us that physicians have surrendered their rights and, not to speak too harshly of one's professional brethren, shirked the responsibility legitimately attaching to them.

In the Arcadian days of the world's youth and innocence, the insane were supposed to be under the special protection and inspiration of the gods. The nations of antiquity not being weighted with the cares and vices of modern civilization, insanity was not so common among them as among us, and the supposed possession of prophetic powers insured to the

insane great regard and the kindest treatment. The proverbially narrow line which separates genius from insanity should teach us to exhibit the kindness if we cannot feel the reverence of the ancients. In all the civilized nations of the ancient world, insanity seems to have been reasonably well understood, and its treatment was mainly conducted on correct principles. The medical literature of ancient Greece has certainly not been surpassed, so far as it pertains to this subject, till very recent times. The inhuman treatment of the insane which was in vogue less than a century ago had its birth in the ignorance and brutality of the "Dark Ages." Chained down in cells and dungeons, and wallowing in dirt and filth, a collection of the insane was looked upon much as an assemblage of wild beasts, and subjected to more barbarous treatment. Out of all this grew a horror of insanity and a repugnance to those who unfortunately are afflicted with it, that continues in the popular mind even now. They are regarded as a peculiar class, destitute of human qualities and feelings, not appreciating injustice and cruelty and not susceptible to kindness. Even physicians are too prone to be influenced by popular opinion, and forget that these unfortunates are men of the same feelings and passions, influenced by the same desires and motives as others, though not always in the same degree. As soon as a case of insanity comes under the care of the ordinary physician, influenced by this feeling, he gives "neither sleep to his eyes nor slumber to his eyelids" till his patient is safely housed in some public asylum. We are led to ask why this haste? Is the lunatic possessed of a devil, and is the asylum the only place where it can be cast out? Plainly stated, the only plan of treatment which receives general recognition from the profession, is to send the insane to insane asylums. If this statement is doubted, proof of it is to be found in the statistics of insanity. In this country nearly one-half of all cases of insanity reported are in asylums, in Great Britain two-thirds and in France more than three-fifths. Now if we remember that most of the asylums in this country retain only acute cases, while incurables are returned to their friends or sent to special asylums or county infirmaries, and also remember that many insane persons are so quiet that they receive no medical attendance, we can not well doubt that the only medical treatment of insanity that deserves mention is carried on in asylums.

This tacit refusal on the part of general practitioners to treat insanity is the legitimate result not only of public opinion, but also of medical education. Many young men receive their license to practice the healing art, who have never read a page, heard a lecture or been asked a question in regard to the causes, symptoms or treatment of insanity.

The general neglect of this branch of medicine being

admitted, we are brought to the consideration of whether it ought to be so neglected, whether the asylum plan of treatment is the best that can be devised in the present state of medical knowledge; in fine, whether we do our duty in turning over to specialists every patient bereft of reason.

To consider this question intelligently, we must go back a little and refresh our memories as to the nature of insanity. This term is one of many we received as a heritage from the ignorance of the past. The word means simply unsoundness, and on no principle of nosology can its present restricted use be justified. It could with equal propriety be applied to any other lesion of the body. If we base our nomenclature of disease on etiology, we find the causes of insanity to be almost numberless; if we base it on semeiology, types of the malady almost as numerous as the frogs that covered the fair valley of the Nile, in obedience to the magic wand of Aaron, present themselves; and finally, if we take pathological lesions as our guide in the matter, we cannot properly apply any single term to the lesions which cause a departure from the normal standard of mental manifestation. When an expert is called into court in a case involving testamentary capacity or criminal responsibility, it is notoriously the custom to enter upon the work of confusing the witness and impairing the force of his testimony by innocently asking for a definition of insanity. If, bearing in mind the features of the case in question, he gives a definition appropriate to that particular case, he finds that he has excluded many cases of undoubted insanity; if, on the other hand, he is unwise enough to attempt a definition sufficiently comprehensive to include all possible cases, he finds to his horror, that he has numbered among lunatics half the jury, the opposing lawyer, possibly the judge on the bench and almost certainly himself.

The confusion of ideas in the popular mind as to what constitutes insanity is but the reflection of the want of agreement among medical writers on the same subject. The truth is, the term cannot be defined, because it stands for no disease. Insanity is only a symptom, and a symptom of many different diseases which primarily or secondarily affect the nervous system, and thereby cause either organic change or functional derangement in some part of it. It is doubtful whether, in the present state of our knowledge of the physiology and pathology of the nervous system, it is possible or desirable to discard the term. Very few of the lesions whose prominent symptom is insanity are sufficiently well understood to receive appropriate names, and until we can replace old terms with new ones about which there can be no ambiguity, it is better to retain them. Still, physicians should remember that to pronounce a man insane is not to diagnose his condition, and remembering that, they, at least, would use the term intelligently. Little enough is really known of the diseases grouped together under the

term insanity, but even that little is chiefly confined to the few who have made this subject a special study. The ordinary history of a case of insanity is, that the person affected is for some time indisposed, nervous and irritable, displaying eccentricities of conduct that attract the attention of his family and friends. The doctor is consulted and ascribes the change of manner to excessive devotion to business, or more often to "biliousness," assures the patient and his family that nothing serious is the matter and dismisses the case from his mind. The disease runs its course unchecked, until by its gradual progress or in consequence of some shock, such a change is produced in the patient's conduct that no medical skill is necessary to detect his insanity. The next step is the removal to an asylum, and, as he is almost sure to object to the removal, deception must be used or compulsion resorted to. After treatment for a variable length of time the patient is dismissed cured, improved, or incurable, with the chances at least that he will be in the last class.

Now, I have no desire to decry insane asylums, nor is it any part of my purpose to criticize their management. They are at once the evidence and fruit of a noble and humane civilization. The efforts made to alleviate the sorrows and improve the condition of those who are doomed to eternal night, or everlasting silence, or who, worse than either, are deprived of reason, the crown and strength of manhood, are worthy of all praise. A single hospital or asylum is better proof of true national greatness than were all the monuments of Egypt or even the magnificent temple of Jehovah, which was the embodiment of a nation's offerings.

Indeed posterity, looking at our immense benevolent institutions, will have more reason to question our wisdom than our generosity. The treatment which the inmates of our insane asylums receive is doubtless, in the main, commendable in the highest degree. As a rule, it is in accordance with the teachings of the highest medical learning, so far as circumstances allow it to be so. But admitting all that can be said in favor of our public asylums, the question yet remains whether that plan of treatment is best, whether many a patient may not be kept out of them by a little preventive treatment from his regular medical attendant, whether some are not made incurably insane who otherwise might recover, whether in all or even a majority of cases of fully developed cases of insanity the asylum offers most hope. Charged, as we physicians are, with the duty not only of caring for our individual patients, but also of looking after the best interests of society, we cannot wholly disregard these questions. To consider them in all their bearing would require a volume. A few points only can be mentioned in a short essay.

Insanity is a condition which, with few exceptions, develops slowly, and in the vast majority of cases long before the mal-

ady is generally recognized, it gives evidence of its presence capable of appreciation by any one who has given the subject careful study. All authorities agree in stating, and the truth of the statement is almost self-evident, that the earlier a case of insanity is placed under treatment, the greater the prospect of complete recovery. In fact, the length of time a case has lasted is a more important element in prognosis than the extent of the deviation from the normal standard of mental manifestation. In a recent report of one of the best and most successful asylums in this country, the small proportion of recoveries is attributed by the superintendent to the fact that very many are not brought under treatment till the curable stage of their diseases is passed. What was at first merely a functional derangement in time becomes an organic change. At first the evil spirit can easily be exorcised, but at last he defies all the arts of the charmer, "charm he never so wisely." This one fact alone ought to lead every practitioner of medicine, especially if he lives remote from a city where the services of experts can be obtained, to fully qualify himself to detect the first symptoms of insanity and to adopt appropriate measures for its recovery.

The next point for consideration is whether the asylum is the best place for the treatment of fully developed insanity? In cases marked by a suicidal or homicidal mania, unless the patient is possessed of sufficient wealth to procure constant attendance, thereby insuring the safety of himself and those around him, the physician has no choice, but must send him to a place of absolute safety. In many cases, apparently quiet and perfectly harmless, the possibility of the patient being suddenly seized with an impulse of this kind exists and must be guarded against most carefully. But aside from these cases the physician, before sending an insane patient to an asylum, may well ask himself whether it is not in his power to manage the case with better prospects of recovery. It is now pretty generally believed by alienists that all insanity has a pathological basis, though the change in nerve tissue eludes the scalpel and microscope. If insanity is simply a symptom of lesion of the brain, it follows that the treatment ought to be directed to that lesion; but our materia medica contains few remedies that directly affect nerve tissue, and the list of drugs that can advantageously be used in insanity is a short one. Without stopping to argue whether mind has an existence separate from brain, or whether insanity is even caused solely by mental shocks, we all know how much mental states influence bodily conditions, and how powerful "moral measures" are in the treatment of insanity. This is admitted in practice by the most avowed materialists and has a wide application in asylums in controlling their inmates. As every sick person is greatly influenced by his surroundings, and the insane especially, it seems almost self-evident that, to collect large numbers of such

patients in one building, is open to serious objection and must result in great injury to many patients. The first requisite in the psychological treatment of the insane is that they be surrounded only by those who are perfectly sound in intellect and emotion. In an asylum the only sane persons the inmate can have any association with are the medical and other attendants. True, visitors daily walk through the corridors of the building, inspecting the unfortunates there in much the same spirit as they inspect the animals in a zoölogical garden. The association with the physicians and attendants is necessarily very limited, and the constant association is with the other inmates. I know common opinion puts all crazy people in the same class and imagines them to be all alike, and all alike incapable of appreciating their surroundings; no greater mistake could be made. True a few are so wrapped up in their own delusions and hallucinations that they are oblivious of all else. These and cases of dementia might be exhibited without suffering harm, but then the exhibition would lack interest and the show receive little patronage. The types of mental alienation are exceedingly numerous, and the ordinary lunatic is as keen to detect the mental failings of his associates as any sane man can be. Poor fellows! they recognize all delusions but their own. One will ridicule another for claiming to have discovered perpetual motion, and in the next breath will claim to be Julius Cæsar, Napoleon Bonaparte or Jesus Christ, or all three at once.

It is a common remark that residence in an asylum as an inmate would, in a short time, render a sane man fit to be one, and the remark certainly has a strong basis of truth. If the effect of such a residence would be so great on one in full possession of all his mental powers, what must it be in the case of those whose faculties are already weakened by disease? The repugnance most insane persons exhibit to a residence in an asylum and the impossibility of keeping a large number occupied, which is important, as a remedial measure, are, perhaps, minor considerations, but they are too important to be omitted.

These points, which I have briefly and imperfectly presented, should lead physicians to examine carefully the circumstances of every case of insanity which they are called to manage, and, if the patient is sent to a public asylum, it ought to be for some good, *assignable* reason, not as a matter of blind and reckless routine. Already in Europe are large asylums closing, and the insane are placed in families whose cares and labors, recreations and duties they share, and the result of the experiment proves its wisdom. Many of the leaders of medical thought in this country are proclaiming our asylums as the last resort in insanity, denominating them necessary evils, but none the less evil because necessary. The cruelties which are publicly charged upon the managers of asylums in a sister state, and the scandals that are connected with those nearer home, in the

public prints, only show the abuse which is a possible result of arbitrary power. These undoubtedly are the only blots on the fair record of our asylums, but the possibility of such disgrace should be borne in mind.

It may be objected to this that, so few cases of insanity present themselves to the ordinary physician, that it will not pay him to prepare himself to treat them. If dollars and cents are the only things of value in the practice of medicine, the objection is a valid one. If only remunerative knowledge is desirable, the success of ignorant charlatans proves that a very little knowledge can be made to go a great way. No true physician measures his responsibilities by the golden yard stick.

Insanity is a subject worthy of the gravest consideration and profoundest study, and its importance is increasing every day. Statistics show that, as a nation increases in civilization, wealth and refinement, insanity increases. Fortunately families with the taint of insanity have a tendency towards extinction, nature in this, as other things, being conservative. Insanity very probably is hereditary in a greater number of cases than tables indicate, the predisposition to it often being inherited from ancestors in whom it never fully developed. By wise and careful management it may be kept in check, and it is the duty of the medical profession to study this subject in all its manifold aspects, and by their knowledge to instruct the communities in which they live. One of the leading objects of medical science should be to develop a sturdy race possessing *sound minds in sound bodies.—Cin. Lancet & Clinic*, June 17.

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### FOOT-BINDING IN CHINA.

A very interesting paper upon this subject, read by Dr. Robert P. Harris at a recent meeting of the College of Physicians of this city, affords an opportunity of drawing attention to the peculiar deformity of the feet brought about by the process of foot-binding practiced in China, and the manner in which the tender structures of the infantine foot are carefully mis-trained and distorted into grotesque uselessness.

It appears, according to Dr. Harris's statement, that, among the wealthy and those who can afford to have it done, the first binding takes place at the age of from five to seven. Earlier than this it cannot be done, contrary to the statements of some travellers, because the child must first learn to walk and do certain acts or kinds of work in which walking is essential, or it will not be able to learn. Circumstances sometimes cause the postponement of the dwarfing process until the age of twelve, fourteen, or even twenty; but the suffering then caused is extreme, and the result less satisfactory.

The first step in the process is the bending of the four smaller toes under the sole of the foot, and the narrowing of the parts supported by the metatarsal bones. The second step

consists in a forcing together of the plantar portions of these bones, whereby they are subjected to a continuous pressure, and in an opening, or an attempt at opening, of the articular crevices of the instep, keeping their ligaments constantly tense at the same time. The third step is the last to be accomplished, and can be completed only in the young subject. The os calcis, with the astragalus, is forced downward until the heel is vertical, and its bone on a line with the bones of the leg. The calcis is rounded in form, losing its processes, which are so marked in the normal bone; and its anterior articulating face is brought up near to the high, instep-like arch just in front of the ankle-joint, while at the same time the point of attachment of the tendo Achillis is made the base upon which the girl stands when erect and steps in walking.

The operation is begun by placing the end of a long, narrow bandage on the inside of the instep, carrying it around over the four smaller toes and taking them under the foot. After several turns with this object, the bandage is turned so as to compress the foot longitudinally. The bandaging completed, the child is left to endure the torture for a month. At the end of this time the foot is opened, when the skin is often found ulcerated, or gangrenous from pressure, and one or more toes are not infrequently lost.

The shaping of the foot by the bandage requires two or three years, during which period there is more or less pain. This is most severe in the first year, and gradually diminishes after the bending of all the joints and articulations is completed. During this period, and in fact throughout life, the feet are unbound but once a month.

The suffering at first is very severe, and is located chiefly in the toes, joints, ankle-bones, and instep: it is compared by those who have endured it to that produced by the thrusting of sharp needles into the flesh. At night the girl lies across her bed, putting her legs over the edge of the bedstead, so as to make a pressure under the knees, and thus benumb the parts below them. In this position on her back, swinging her legs backward and forward, she passes many a weary night. Febrile disturbance is said to be an accompaniment of this torturing process.

If the feet are firmly bound, and the girl young, they will cease to ache generally in about two years, the parts being then denominated "*dead*." By this time the calf of the leg, for want of use, has disappeared, the skin is shrivelled, and the whole extremity below the knee presents an atrophied and shrunken appearance, being little more than skin and bone. The bones eventually become attenuated, and the ankle measurement of a dwarf-footed woman is about the same as that of her wrist. In adult life the leg frequently becomes rounded and enlarged by adipose deposit, and the muscles regain their form in a measure; but the ankle always remains small.

The binding process is said to exercise a markedly depressing influence upon the emotional character of its subjects, which lasts throughout life and is very characteristic. Dr. Harris calls attention to a practical point in orthopædics in connection with this procedure of foot-binding. He suggests that, in splay-foot and similar deformities, the converse of the Chinese deformity, a similar sort of binding, thoroughly carried out, would prove highly advantageous.—*Philadelphia Medical Times*, June 31.

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## TAMPONING THE VAGINA FOR CYSTITIS.

By WILLIS P. KING, M. D., Sedalia, Mo.

In the May number of the *Courier*—current year—I read an article from the pen of E. C. Gehrung, M. D., of St. Louis, on "*A new Method of Treatment of Acute Cystitis in Women*," etc., which method consists in tamponing the vagina with cotton, so as to support the posterior wall of the bladder, give rest to that organ and prevent an accumulation of urine in the sagging wall. Dr. G. deserves the thanks of the profession for his most excellent paper; and the article was most satisfactory to me, because it explained upon scientific grounds some things that I had not understood.

I have been in the habit for years, of tamponing the vagina in cystitis, because, I reasoned, in most cases (and especially in married and child-bearing women), the bladder must be interfered with by a displacement of the uterus—anteverted or anteflexed—pressing upon the fundus of the bladder; or by a *prolapsus* dragging upon and displacing the bladder and thereby disturbing its functions. I therefore tamponed the vagina to elevate the uterus and prevent its disturbing the bladder. But I did not in all cases make out either a flexion, version or prolapsus, and yet the relief afforded by tamponing was so uniformly satisfactory (always giving almost instantaneous relief) that I practiced it without being entirely satisfied in my own mind as to the whys and wherefores. So marked was the relief in all cases in fact, that I fell into the habit, when called to see a woman suffering with frequent micturition, burning and scalding pains at the neck of the bladder—of at once setting about the preparation of a tampon.

I could give many cases illustrative of the benefit to be derived from this practice, but will give but one; and since Dr. Gehrung regretted that this method of treatment excluded virgins, I will give a case occurring in an unmarried woman—a virgin.

I was called on the 6th day of July to see an unmarried woman, twenty-two years old, who had stood on her feet during almost the entire day of the 4th, and had walked to the Fair Grounds (where the celebration was held), and back home—a distance of more than one mile—three times. On the 5th she

had a feeling of weight and uneasiness about the bladder, with frequent micturition, which grew gradually worse and culminated in a chill, with increase of the bladder trouble, on the night of the 5th. I found her suffering with intense vesical tenesmus, some fever, rapid pulse, and a constant desire to micturate. Gave potass. acetas and extr. belladonnæ, with flaxseed tea, and applied hot fomentations over the region of the bladder. Was called on the morning of the 7th, and found her no better. I then determined to tampon the vagina. Turning her across the bed with hips near the edge, I introduced the index finger of the left hand, palm upwards, into the vagina. Then having the mother prepare bits of cotton—one-third the size of the thumb—into firm wads, I introduced them one by one with uterine dressing forceps, making the greatest pressure upon the palmar surface of the finger in the vagina, and with that finger packed the wads of cotton around the cervix until I filled the vagina. She was asleep in less than twenty minutes. I did this once a day for three days, and afterwards had no trouble in controlling the difficulty.

The objection to using this method in the treatment of virgins, is the fear of rupturing that insignificant little membrane that everybody seems so sensitive about—the hymen. I did not rupture the hymen in this case; but, suppose that it had been necessary? Must a woman's future health and happiness be sacrificed to save a thin delicate membrane that no one needs and nobody uses?—*St. Louis Courier of Medicine*, December, 1879.

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CZERNY'S OPERATION FOR THE RADICAL CURE OF HERNIA.

At the last meeting of the West Chicago Medical Society, Monday, January 12, a paper was read by Dr. E. W. Lee on Radical Operation for Hernia,—neither strangulated nor inflamed,—by Czerny's new method. The paper was illustrated by a successful case. This is the first operation by the new method performed and published in the United States. In a later number we shall give a detailed description of the operation, but shall now only point out the main differences between this and the older operations. It was the antiseptic method that gave Czerny the courage to attempt the radical operation in a more effectual manner than was possible by previous operations. An incision is made along the entire length of the hernia. The contents of the sac, if intestinal and reducible, are reduced, if intestinal and irreducible, are dissected loose and reduced; and the sac is ligatured at the neck and cut off. If the contents be omental, they are included in the ligature with the sac. The fibrous columns of external ring are drawn together by an uninterrupted suture of strong carbolized catgut, and thus the internal ring is closed, save at the point of exit of the spermatic cord. A drainage tube is inserted, the

wound closed with sutures and dressed antiseptically. This method, as compared with the older ones, is a very remarkable advance toward perfection. The most recent of the older methods,—that of Wood, of London,—could only be applied to reducible hernia, and the results of his operation are always uncertain, because the fibrous columns are drawn together by sutures applied more or less subcutaneously, lest suppuration should supervene. Thus the columns or pillars are not laid bare, and the exact application of sutures and narrowing of the ring are rendered impossible. Czerny's operation has been performed in nine cases of inguinal hernia, and in no case did peritonitis follow. The patient presented was operated upon in July last for an irreducible omental hernia, that rendered impossible the continuation of his daily occupation, since he could not wear a truss. In the discussion which followed allusion was made to a case of reducible scrotal hernia in a child. The surgeon, having heard something of Czerny's operation from one of the gentlemen present, undertook to operate similarly. The child did well and the operation was successful. The surgeon, who expressly stated that he had not availed himself of the spray, carbolized sutures, drainage and antiseptic dressing, was singularly fortunate in not losing his patient from peritonitis (vide history of the older methods of radical operation for hernia in any of the larger text books on operative surgery). We must pronounce the omission of the antiseptic system in Czerny's operation as unwarrantable rashness bordering on the very confines of crime. Any surgeon who undertakes to operate for hernia,—not strangulated by this or by any other similar method,—should be informed in advance, from the original literature or from minute reliable records, of the details and history of the operation, especially of an operation which only the most scrupulous antiseptic precautions (Czerny and Socin) render permissible. *Chicago Med. Gazette,* Jan. 20.

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### THE RAPID TREATMENT OF CLUB-FOOT.

Mr. H. A. Reeves, Surgeon to the East London Hospital for Children, describes (*Med. Times and Gaz.*, Oct. 25, 1879) his method of treating club-foot, which is applicable to the large majority of congenital or acquired deformities of the feet; but the milder cases—those in which slight pressure will bring the foot into the normal position, and in which the rebound on relaxing the grasp is very slight—can, with patience, be cured without operation.

The patient being held by a nurse or assistant, and the foot being in the right position, the tendons of the tibialis posticus and flexor longus digitorum are first divided, and a pad and strip of adhesive plaster applied. Then the tendon of the tibialis anticus is divided and a pad put on. Immediately after the tenotomies, the foot is forcibly but steadily brought into

its right position, and kept there by an assistant while a flannel bandage is put on. Over this is put a plaster-of-Paris bandage, then a thin layer of plaster paste, and finally another bandage and more paste. Sometimes a third plaster bandage is necessary, but in infants and children it may be dispensed with. Of course, the bandages must not be too tightly applied, and it is well to protect the bony prominences with a little cotton wool. The foot is held in position until the plaster has set; and instructions are given to the parents to bring the child at once to be seen, or they are told how to loosen or remove the bandage, should the toes become cold and purple.

If the inner part of the plasetar fascia be tense and interfere with the straightening of the foot, Mr. Reeves divides it first, forcibly stretches it, and at once thereafter divide the tibialis and flexor longus digitorum. He adopts this plan, which differs from that usually recommended, so that the uncut tendons may resist him, and thus enable the anterior part of the foot to be more successfully abducted. In most instances he leaves the foot in the plaster case for a week; but in the more severe cases ten days to a fortnight are necessary. At the expiration of this time the bandage is removed, and the foot will be seen to have assumed its proper position. It is then well worked (*i. e.* abducted), afterwards the tendo Achillis is divided, and the heel gently but firmly brought down. The pad and bandages are put on while the foot is held in the corrected position, the toes being left free, but the heel covered. Another week or ten days usually suffices by this method to bring the deformed foot into its normal position, and then the bandage is removed by cutting it in the mid-line along the anterior aspect of the foot and leg. The foot is then well worked in the desired directions and the leg-muscles shampooed. The mother sees how this is done, so that she or her husband may occasionally do it at home, and the child is brought once a week to be seen by the surgeon.

If the child be old enough to walk, it is measured for a proper boot and support at the commencement of the treatment, and in most cases in three weeks after the first operation it is allowed to walk. The foot is well worked night and morning, and the second plaster bandage is put on at bedtime and retained in position by an ordinary roller. This is ordered to be continued for several weeks, in order to prevent a relapse. Except in very severe cases an anæsthetic is unnecessary, but in private practice, should it be desired to prevent the child crying, it may be given.

Mr. Reeves has now had considerable experience in this, as well as in the ordinary modes of treating club-feet, and so far has never had a relapse, if the instructions have been properly carried out. He can therefore confidently recommend it to surgeons interested in such matters.

The advantages of the method proposed are briefly the follow-

ing:—1. The results are rapid and satisfactory. 2. Expensive apparatus is unnecessary. 3. The muscles, joints, etc., are worked and exercised, and not allowed to atrophy or become temporarily fixed, as in the German method; and, 4. The patient in ordinary cases may be allowed to use the foot or to walk in three weeks after the first tenotomy.—*Med. News and Abstr.*, January.

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THE HOT SPRINGS—

Famous for the hot water into which the patients get soon after their arrival in that city, are well known to the profession, but the hot water into which they get before reaching the city limits has not received due attention. The following from a late number of the *Hospital Gazette* appears to be a fair representation of the way in which the doctors of that city conduct their business. Unfortunately such practices are not confined to the Hot Springs: "The Hot Springs attract the wealthy who are suffering from certain diseases, the suffering wealthy have attracted the doctor, the doctors look after the wealthy and their wealth, the merchants look after the doctor's wealth, and so on ad infinitum, eventually developing a circle full of business, of healing and a striving for wealth. The great business of the place is doctoring, and everybody in business is dependent upon the doctors' success in securing custom and consequent pay. Doctoring being the chief business, and everybody being dependent upon its rewards, everybody attends to business according to business laws. Solicitors solicit, agents represent, and attendants assist the doctors; the boats and cars leading to the city, bringing sufferers who hope to be relieved, are met by doctors' representatives, who extol their respective principals and denounce rivals. Business begins before the victim gets within the city limits, and continues unceasingly until he dies, generally, or by some chance is restored to health, occasionally."—*Chicago Med. Gazette*, Jan. 20.

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TREATMENT OF CHRONIC ULCER OF THE LEG BY MARTIN'S RUBBER BANDAGE.

By A. W. Perry, M. D.

Chronic ulcer of the leg is one of the most annoying affections that the physician or surgeon is called upon to treat. Found, as it generally is, among the laboring classes, it is, owing to their circumstances, very difficult to cure and exceedingly liable to return. Many plans of treatment have been proposed, and they all succeed when conjoined with rest in the horizontal posture. When the ulcerations are small or just beginning, a timely rest would cure them up; but in this condition they are considered too slight to justify the admission of the subjects to a hospital, and usually they cannot afford to remain long enough at home to ensure a cure, so they work

until the ulcer becomes so large and inflamed that they are admitted to the hospital, where they are cured by rest; leave the hospital and repeat the same history in a year or two. How familiar is this picture to every physician. The cause of chronic ulcer of the leg being deficient venous circulation, the most successful methods of treatment have been rest or obliteration of the varicose veins invariably present. It has always, of course, been considered a desideratum to afford support to the leg by means of bandages, but they all have some objections for continual wear. The cotton roller easily slips off in persons who exercise; the elastic stocking is troublesome to put on, and in a short time stretches so much as to be useless, and is quite expensive; the laced stocking is troublesome to apply and does not lie smoothly. The Martin bandage (a roller bandage) cut from thin rubber cloth of nearly pure gum, has very few of the disadvantages above mentioned, and its use will open a new future to these cases of chronic ulcers. They need no longer encumber the surgical wards of hospitals or lose their time at home. This bandage will cure, as Dr. Martin says, chronic ulcers of the leg without the necessity of an hour's rest or change of posture. Dr. Martin treated over six hundred cases of this kind, curing all without exception. We can bear the strongest testimony to the efficacy of this treatment without rest, and will give the history of the latest case treated by us in this way.

J. M., about 35 years old, common laborer, was sent to me, October 11th, 1879, with a chronic ulcer at the lower part of the leg, with hard bluish edges, a yellow bottom, and discharging a thin sanious pus. This was beginning to inflame, and he had left off work for about a week. He had already been several times in a hospital for previous outbreaks of this ulcer. I applied a rubber bandage, five inches wide and three yards long, costing $2 00, to the leg from the instep to just below the knee, using no reverses in applying the bandage. He then went to work as usual; no application was made to the ulcer. October 14th the ulcer was well, and he has worked all the time.

The bandage should be taken off at night, washed, and hung to dry, and should be applied in the morning before the patient gets out of bed. It never slips off, and if applied a little too tight or too loose it adjusts itself to the proper tension. We do not know of a greater benefit to the large class of sufferers from chronic ulcers of the legs than this invention of Dr. Martin. —*San Francisco Western Lancet*, Nov., 1879.

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GARSON ON INEQUALITY IN LENGTH OF THE LOWER LIMBS.

The asymmetry of the lower limbs in living persons has been very fully and satisfactorily proven by Dr. Wight, of Brooklyn, and his results have been confirmed by Dr. Cox, of New York,

who curiously enough investigated the subject independently and almost simultaneously; but whose paper appeared after that of Dr. Wight. It had not, however, been shown whether the asymmetry was due to unequal development of the bones or of the soft parts. To ascertain this point, Dr. Garson made an extensive series of measurements of the bones of the lower extremities of skeletons in the museum of the Royal College of Surgeons of England. The results of his measurements show that the combined lengths of the femur and tibia on one side of the body are seldom the same as the combined lengths of those bones on the other side. He found that in 10 per cent. only are the right and left limbs equal. This corresponds very nearly with the results obtained by Dr. Wight from his measurements of the limbs of living persons. In the majority of the cases where the limbs were equal they were so by compensation, that is, by the tibia being shorter when the femur was longer, and *vice versa*. In 35.8 per cent., the right limb was found to be longer than the left, the average preponderance of the former over the latter being 3.3 millimètres. In 54 per cent. the left limb was longer than the right, and its average preponderance over the right was 4.8 millimètres. The left leg, therefore, is not only more frequently longer than the right, but the difference between the lengths of the limbs is greater, generally, when the left is the longer. Regarding the lengths of the individual bones, the author finds that the left femur is in 58.5 per cent. longer than the right, its average preponderance being 3.8 millimètres; in 28.8 per cent. the right is longer than the left, its average preponderance being 2.9 millimètres; and in 12.9 per cent. the bones are equal. Again in 34.2 per cent. the left tibia is longer than the right, the average preponderance being 3. millimètres; in 41.4 per cent. the right is longer than the left, the average preponderance being 2.6 millimètres; in 24.2 per cent. the bones are equal. While the left femur is, therefore, the longer, the left tibia is usually the shorter. In this way there is, in some cases, a certain amount of compensation, although it is often found that where the femur of one side is longer than that of the other, the tibia of the side on which the femur is the longer is often also the longer. The inequalities of the limbs do not seem to be confined to any particular age, sex, or race. Altogether the results obtained by the American surgeons are entirely confirmed by Dr. Garson's observations on the bones.—*London Med. Rec.*, Nov. 15.

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TETANUS.

Dr. Krucht, of Walheim, Saxony, has collected 389 cases of tetanus, which he reports in the June number of *Schmidt's Med. Jahrbucher*. The following resumé will show the comparative success of the various modes of treatment which were had recourse to in those 389 cases:

| *No. Cases* | *Treatment* | *Recovered.* | *Died.* | *Mortality.* |
|---|---|---|---|---|
| 58 | Surgical, | 30 | 28 | 48 per cent. |
| 51 | Curare, | 26 | 25 | 49 per cent. |
| 60 | Calabar, | 33 | 27 | 45 per cent. |
| 134 | Chloral, | 79 | 55 | 41 per cent. |
| 63 | Various, | 32 | 31 | 49 per cent. |

To the 134 cases treated with chloral may yet be added twenty-three other cases in which this remedy was used in conjunction with other agents. Of these twenty-three cases, nineteen recovered and four died—the mortality of the entire number treated with chloral being thus lowered to thirty-seven per cent.

The surgical treatment instituted in the fifty-eight cases consisted in amputations, stretching of nerves, etc. The editor closes the article with the remark, "that this collection of cases again verifies his opinion, that chloral affords better results in the treatment of tetanus than any other agent known."

F. W. KOEHLER.

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## TETANUS.

The results at which Prof. D. W. Yandell arrives, from a careful analysis of three hundred and eighty five cases published and thirty unpublished cases of tetanus, are as follows:

1. Traumatic tetanus is most fatal during the first decade of life.

2. It usually supervenes between four and nine days after the injury.

3. The largest number of recoveries are found in cases in which the disease occurred after the lapse of nine days from the injury.

4. When tetanus continues fourteen days, recovery is the rule, death the exception, *apparently independent of the treatment.*

5. Tetanus arising during the puerperal state is the most fatal form of the disease.

6. Chloroform has, up to this time, yielded the largest percentage of cures in acute tetanus.

7. The true test of a remedy for tetanus is its influence on the history of the disease: (a) Does it cure cases in which the disease occurred prior to the ninth day after the injury? (b) Does it fail in cases whose duration exceeds fourteen days?

8. Tried by these tests, no agent has yet established its claims as a true remedy for tetanus.—*Birmingham Review*, July, 1879.

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## CREMATION IN ITS MEDICO-LEGAL ASPECTS.

This subject has received the attention of the Société de Médecine legale de France, a full and interesting discussion

having ensued on the presentation of an essay on the topic by M. Ladreit de Lacharrière.* The sanitary relations of the theme received ample consideration also, but with these we are not now concerned.

M. Lacharrière took the ground that, from a medico-legal point of view, cremation is open to the gravest objections. Before any dead body is submitted to incineration, there should be, he says, certainty upon two points: the fact of the death itself and the cause of the death. Verification of the death is not difficult, especially in cities which can adopt the Parisian system. But accuracy as to the cause of the death is not an easy matter to manage; medical certificates do not solve the question, nor is the ordinary autopsy, performed, as it is, without any presumption or suspicion such as forms the basis of a medico-legal examination, a sufficient safeguard against crime. Therefore it would be unsafe to proceed, upon such inadequate means of detecting in the body the true cause of death, to destroy the body by cremation, and thus throw away the opportunity for reinvestigation. Finally, M. Lacharrière supposes two instances, either one of which is likely to occur: A person dies, presumably of heart disease, but really by a poisonous dose of digitalis administered with criminal intent. The autopsy establishes the presence of heart disease, and the crematory furnace is allowed to do its work, whereby the real evidence of the crime is destroyed, and the criminal escapes. Or, in the second case supposed, no crime has been committed, but popular gossip accuses unjustly one of the relatives of the deceased. What proof will the accused be able to furnish, after cremation of the body, that he is really innocent?

Thus, by enabling the traces of a crime to disappear, cremation leaves society defenseless; it can likewise make it impossible for an innocent man to answer baseless calumny.

In the discussion which followed the reading of this paper, M. Napias expressed the opinion that cremation offered no real obstacle to the detection of crime in cases of death by violence, and that burial had no special advantages in this regard. If a death has been the result of mechanical violence, the case presents no difficulty, since the injuries could hardly escape observation. In cases of poisoning, however, there would be more difficulty. In this connection, M. Napias would divide poisons into two classes: those which could not be recovered from the ashes of a cremated body, such as organic substances, mercury (because of its volatility) and phosphorus (normally present in the body); and, secondly, those which can be traced after incineration, such as arsenic, antimony, and copper. Poisons of the first class disappear in case of burial as well as in that of cremation; poisons of the second class are found

*Annales d'Hygiène publique et de Médecine légale, June and July, 1879.

just as readily in ashes as in the remains of buried bodies. Moreover, as a matter of fact, the majority of exhumations are made to determine the nature of mechanical injuries, not of toxic agents.

In cases of death occurring without an attending physician, M. Napias would not permit cremation, except after a complete autopsy; and if the slightest suspicion were entertained as to the manner of the death, an inquest also should precede the final disposition of the body.

M. Gallard argued that the autopsy was an ample safe-guard against any medico-legal misadventures of cremation. This will almost always reveal the cause of death, and should invariably be applied. In the exceptional cases where the cause of death is not thus determined, there should be in addition a chemical analysis, and possibly an inquest also. M. Gallard stated that he would subject to cremation all dead bodies not claimed by friends, such as those of executed criminals, of persons dying in hospitals or prisons, and those carried to the mogue and not identified.

M. Riant believed that cremation would expose society to the most serious dangers from a medico-legal point of view, because a crime frequently escapes suspicion till long after the death of the victim, and cremation renders impossible the demonstration of the crime and the punishment of the criminal. He did not think that the ordinary medical certificate of the cause of death, liable as it is to many errors, afforded much protection against the dark deeds of criminals. Cremation, after such a certificate, will have rendered a mistake irremediable and a crime unpunishable; burial, on the contrary, preserves for us the *corpus delicti*, and permits the condemnation of the guilty.

He pointed out the impracticability of M. Gallard's proposal to have an autopsy in every case before cremation; in Paris alone nine hundred autopsies would be required each week. The difficulties in the way of chemical analysis as a prerequisite of cremation would be even greater. In cases of poisoning, in which chemistry lends its aid under present methods, the chemist has clews and presumptions, if not proofs, which he simply verifies; and even with these advantages much time and great care and delicacy are needed in the processes employed. The chemical search which M. Gallard would impose would be simply a search in the dark, without guide or hint as to the result; such an investigation could not be seriously undertaken.

To the suggestion of M. Napias that the organic and volatile poisons are the only ones liable to loss through cremation, M. Riant replied that these were in fact the poisons most commonly used by criminals, and for obvious reasons. Moreover, granting that the ashes resulting from cremation may be found to retain mineral poisons, it is easy to see how readily these ashes might be scattered or destroyed by the criminal, or other

ashes, innocent of poison, substituted. M. Riant also reminded M. Napias that, while gross mechanical lesions would undoubtedly be seen and investigated, there were means and agents not unknown to criminals that would leave slight traces of their fatal work; there are wicked mothers who know that a needle or a pin is useful in infanticide, and that it leaves but a scanty evidence of its use.

An inquest before cremation M. Riant deemed of little practical value, since the interval of thirty-six or forty eight hours available in such a case, between the death and the furnace, is generally much too short for the manifestation of suspicions or pointed rumors, upon which alone an inquest would be well founded or the machinery for the detection of the criminal set in motion.

M. Riant would reserve cremation for use in seasons of fatal epidemics and for the disposal of the bodies of soldiers after great battles.—*Boston Med. and Surg. Jour.*, Jan. 29.

## Editorial Department.

### PARISH MEDICAL SOCIETIES.

Elsewhere will be found the proceedings of two parish associations; the Attakapas Medical Society and the Iberville Medical Society. There is throughout the State a number of parish organizations, but our information in regard to their location and membership is very meagre. What they are doing we have not heard for some time, but trust that good work is being accomplished and that the secretaries of each will favor us with a synopsis of proceedings and forward for publication the interesting papers read by the members. The obliging secretary of the Attakapas Medical Society has forwarded manuscripts of a valuable article read at the meeting held March 4th. We regret that its late arrival will compel us to defer publication until the next issue.

Nothing has a greater tendency to unite the profession than these parish organizations. The fact of membership at once establishes the status of the practitioner. Ostracized by his profession, the physician of any place feels alone and in the country especially it is so gratifying to find practitioners residing a few miles apart meeting at stated intervals to confer with each other on current events in the medical world and special diseases of their community. Sociability and the cultivation of kindly feeling are in themselves sufficient incentives.

When the State Association formed it was hoped that delegates from parish medical societies, with proper credentials, would compose that body; lack of organization throughout the State has precluded this possibility, and the very existence of the State organization is really dependent upon physicians who do not belong to parish societies. Fortunately for the State Medical Association, a large number of physicians, even though they failed to interest their colleagues in forming local societies, willingly spend three days in the year in pushing the interests of the profession at the sessions of the State society. Still, what we wish, is to have the whole State represented by special delegates from every district. These reporting on special features of disease in their respective districts and topography of each parish, will afford valuable matter for the future statistician, for the time will come, and we hope is not far off, when each ward of every parish will have its vital statistics registered by proper officers. Then again, there will be this gratification to the profession of the State, that the cause of medical education and practical studies of hygiene and preventive medicine will, through the thorough organization of the rank and file, lead to such victories as those attained by our sister States, Alabama and Mississippi.

## UNIVERSITY OF LOUISIANA—MEDICAL DEPARTMENT.

The Commencement Exercises of the Forty-sixth Annual Session of the Medical Department of the University of Louisiana, were held at the Grand Opera House, New Orleans, March 19th, beginning at 12, M.

The pleasant weather, combined with the attractions on this occasion, filled the house with an appreciative audience, and the exercises throughout exceeded in interest and taste, any similar one witnessed by us.

The exercises were opened with a pleasing musical introductory by the Thirteenth Infantry Band.

Dr. B. M. Palmer offered a prayer.

The degeees were conferred by Hon. Randall Hunt, President of the University, who made a few appropriate remarks.

The Annual Address was delivered by Hon. James B. Eustis, on the timely topic: The Commercial Intercourse between Communities and States during Epidemics.

Frequent applause demonstrated that the views of the orator were in harmony with his audience.

At the conclusion of the exercises Dr. T. G. Richardson, the Dean of the Faculty, introduced Dr. Samuel D. Gross, of Philadelphia, who addressed the graduates with words of encouragement and advice, and paid a high tribute to the late Prof. Warren Stone, M. D.

The names of the graduates are as follows:

DEGREE OF DOCTOR OF MEDICINE.

| | | | |
|---|---|---|---|
| Ash, John W. | Alabama | Helm, William B. | Louisiana |
| Barham, J. H., M. D., | Texas | Himel, Numa | Louisiana |
| Barrow, David | Louisiana | Hiriart, Emil | Louisiana |
| Berry, James R. | Mississippi | Jones, John T. | Louisiana |
| Bolton, William S. | Texas | Keitz, Gustav | Louisiana |
| Bourgeois, Clement A. | Louisiana | Kennedy, Sterling D. | Louisiana |
| Brickell, Frank H. | Louisiana | Lewenthal, Abraham | Louisiana |
| Bridges, Robert R. | Mississippi | Lynch, John P. | Louisiana |
| Buckner, W. E. | Mississippi | Matas, Rodolfo | Mexico |
| Campbell, Wilfred W. | Louisiana | McGehee, William A. | Texas |
| Cook, Thomas L. H. | Mississippi | Mizell, George D | Mississippi |
| Cooke, William O. | Georgia | Moody, Thomas | Texas |
| Courégé, Simon | Louisiana | Nixon, James W. | Texas |
| Donald, Robert B. | Mississippi | Owen, W. Glendower | Louisiana |
| Dugas, Elphege T. | Louisiana | Ridley, Francis M. | Georgia |
| Dumas, Wm. P., M. D. | Texas | Silvestre, Felix A. | Louisiana |
| Ellis, George E. | Mississippi | Smith, Ernest H. | Louisiana |
| Fairbanks, Charles M. | Tennessee | Snow, William H. | Texas |
| Fleetwood, John N. | Louisiana | Sturdevant, James K | Louisiana |
| Flowers, William M. | Mississippi | Tarleton, Leo C. | Louisiana |
| Ford, Francis C., M. D. | Texas | Vandergrift, Wash. F. | Alabama |
| Freeling, John W. | Tennessee | Washington, Chas. D. | Texas |
| Greer, Rufus A. | Texas | Whatley, John S. | Texas |
| Hanson, John D. | Louisiana | Young, James A. | Mississippi |
| Hébert, Thomas | Louisiana | | |

DEGREE OF MASTER OF PHARMACY.

| | | | |
|---|---|---|---|
| Albers, David P. | Louisiana | May, Eugene | Louisiana |
| Berger, Otto | Louisiana | Metreaud, Frank M. | Louisiana |
| Bradburn, Wm. P. | Louisiana | Parmelee, James M. | Louisiana |
| Caillier, Joseph A. | Louisiana | Puech, Nevil A. | Louisiana |
| Desporte, Charles | Louisiana | Sayus, Lewis A. de | Louisiana |
| Duffel, Lewis E. | Louisiana | Schuman, Philip | Louisiana |
| Fairbanks, Chas. M. | Tennessee | Tilford, Robert H. | Louisiana |
| Gessner, Henry C. | Louisiana | Wunderlich, William | Louisiana |

## PROF. SAM'L D. GROSS, M.D., D.C.L., OXON.

The arrival of Prof. Sam'l D. Gross in New Orleans on the 18th of March was an incident that compares with but one other event in its medical history. We allude to the visit of the celebrated Marshall Hall. The reception of this venerable father has been so general and profound that we feel sure his stay in the Crescent City will add another to the many delightful memories which cling to the heart of this good old man. He was present at the Commencement Exercises of the Medical

Department of the University of Louisiana, and the few words of welcome and advice to the graduates were impressive and highly appreciated.

He was the guest of Prof. T. G. Richardson, his former pupil, and the reception given him by that gentleman at his beautiful residence on the 20th inst., was an enjoyable affair.

The host proved himself a master in the art of entertainment, and fully one hundred and fifty physicians availed themselves of the invitation to be introduced to one, who although personally a stranger was yet well-known to all.

On the 24th inst., a complimentary reception was tendered Prof. Gross by the members of the medical profession in New Orleans.

The reception was given at Spanish Fort, Lake Ponchartrain. The day was delightful and at 1 o'clock a special train conveyed the party to its destination. A joint committee, composed of six members each from the Orleans Parish Medical Society and New Orleans Medical and Surgical Association had charge of all arrangements.

The party, numbering about one hundred, after walking over the grounds and viewing the many objects of interest, at half-past two, P. M., seated themselves at the table. The chairman of the joint committee, Dr. J. P. Davidson, introduced the guest as follows:

GENTLEMEN—As the chairman of the joint committee of the Orleans Parish Medical Society and the New Orleans Medical and Surgical Association, I have the honor of introducing to you our distinguished guest, Prof. Sam'l D. Gross, of Philadelphia, whose fame both as a teacher and author is co-extensive with the civilized world.

To most of those present he may be personally unknown—but he comes not to us of the medical profession as a stranger—rather indeed as an old and familiar acquaintance; for it may be said that we have all sat at his feet as another Gamaliel.

Therefore, in greeting him to-day with the esteem and respect due to his exalted virtues as a man, and his extended and eminent services in the noble science of medicine and surgery, we do honor to the profession and to ourselves.

In the name of the physicians of New Orleans, honored sir,

I bid you welcome to our city, and hope that your sojourn in our midst may be in all respects a pleasant one to you.

The *menu* was all that could be desired, and amid the rivalry of such occasions toasts were drank to "our guest" the United States, the Medical Profession, the Press, etc.

An autograph album, containing the names of those present was presented to Prof. Gross who made a feeling response.

Addresses were made by Prof. S. E. Chaillé, Rev. W. H. Watkins, Drs. Hale, Sternberg, Turpin, Salomon, Crawcour, Loeber, Schuppert, Milner and Joseph Holt, after which the professor and party returned to the city.

## PHOTOGRAPH OF PROF. S. D. GROSS.

We have received from the courteous and artistic photographer, W. W. Washburn, 109 Canal street, a striking likeness of Prof. S. D. Gross. We feel sure that members of the profession in New Orleans will be glad to avail themselves of the opportunity to obtain a copy as a memento of this illustrious surgeon.

## IBERVILLE MEDICAL ASSOCIATION.

The second annual meeting of the Iberville Medical Association took place on February 25, at the residence of its president, Dr. J. P. R. Stone.

Dr. Edward Duffell, of Ascension, was present by invitation.

The present officers were re-elected for the ensuing year.

J. P. R. STONE, M. D., *President.*

A. B. SNELL, M. D., *Secretary.*

BAYOU GOULA, LA., March 21st.

## NECROLOGY.

DIED—At Washington, St. Landry Parish, March 13th, 1880, DR. THOMAS A. COOKE, aged 70 years, a native of Glaucester County, Va., and a resident of this State for forty years.

DIED—On Wednesday, March 31st, 1880, DR. SAMUEL W. RAWLINS, aged 22 years and 11 months, a native of New Orleans, La.

# Reviews and Book Notices.

*A Biographical Dictionary of Contemporary American Physicians.* Edited by Wm. B. Atkinson, M.D., Permanent Secretary of the American Medical Association and of the Medical Society of the State of Pennsylvania, etc. Second edition, enlarged and revised. Philadelphia: D. G. Brinton. New Orleans: J. C. Eyrich.

The sad thought that we must all die is greatly mollified by the recollection that we have been our own biographers, and have left nothing to laborious Dr. Toner or medical journals, but to complete our records by winding up with the date of death.

We have seen books entitled "Every Man His Own Lawyer," "Every Man His Own Book-keeper," but this work should be called "Every Doctor his Own Boswell."

The first edition of this work, embellished by portraits of the handsomest, if not the most prominent members of the medical fraternity, created quite a buz in professional circles, and complimentary notices went the round of the medical journals. Pardonable vanity was excused, and the industry and skill of the editor deserved warmest praise. The work paid no doubt, and all except those left out were happy.

The second edition is not entitled to the praise bestowed before. The lack of care evident in getting it up will warrant some candid remarks. It is, with the exception of a few pages added at the back part of the work, a mere reprint of the former edition. The same electrotype plates were used, and it is *minus* the portraits. The same typographical errors are at hand. The dead are along with the living, and if these have been left in from motives of economy an appendix should have been added, especially since such men as Woodworth, Peaslee and Atlee have passed away.

When the first edition of this work appeared we were gratified, indeed amazed to find that we were living in the land where so much genius abounded. We did not expect to see another edition appear, but confidently thought that some self-sacrificing doctor would collect for the benefit of the rising generation, the various articles emanating from these

distinguished men and publish them in book form, thus doing away with the old style text books; afford a field where the student could gambol and collect and store away for future brain nourishment the "serials." We know the labor will be arduous. But oh! you medical philanthropist, look to it that this is done before the anchor death has twanged the bow-string and let fly the fatal shaft. Think of the important knowledge lost to medical science should "The Nature and Cure of Heterologous Tumors," "Marriages of Consanguinity," "The Function of the Ciliary Processes of the choroid Coat of the Eye," "The Vis Medicatrix as a "Blood Letter," Hæmatemesic Paludal Fever," "Tetanoid Fever," "Elkoplastry," "Inflammation of the Umbilicus," "Sickness Tax," "Hallux Valgus," "Grace Culture," "Albinism in Negro Race," "Essay on Quinine," etc., etc., be consigned to medical journals or "Transactions" of Associations.

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*A Practical Treatise on Nervous Exhaustion (Neurasthenia), its Symptoms, Nature, Sequences, Treatment.* By George M. Beard, A.M., M.D., etc. 8 vo. pp. XX and 198. New York: Wm. Wood & Co. 1880. [For sale by Armand Hawkins, medical bookseller, 196½ Canal street, New Orleans.]

The above-named disease is stated by the author to be the most common of the nervous disorders prevailing in this country, and to be specially common in the Northern and Eastern sections, while comparatively rare in the South, especially along the gulf coast. He adds that this complaint belongs particularly to the present century, that its true nature has only recently been recognized fully, having been classed by physicians and the laity as "general debility," "nervous prostration," "nervous debility," "spinal weakness," "spinal irritation," "nervous dyspepsia," "oxaluria," cerebral and spinal anæmia and hyperæmia. As a consequence very confused ideas of its nature have been entertained, and it has been greatly neglected.

Though more common in the North-eastern portion of the United States than elsewhere, it is known in Europe, where it has its favorite territory, comprising England, Northern France and Germany. It is evidently an outgrowth of modern civilization, and dependent on the excessive strain and friction of

the present artificial and highly specialized occupations and modes of life.

The book is divided into five chapters, of which the first is brief and introductory. The second, occupying 74 pages, treats minutely of the numerous symptoms of nervous exhaustion, of which more than 70 are enumerated and explained. Among these are classed a variety of morbid fears, for which the author uses new terms, some of his own invention. Thus, we find *astrophobia*, or fear of lightning; *agoraphobia*, or fear of open places; *claustrophobia*, or fear of close places; *anthropophobia*, or fear of society; *monophobia*, or fear of solitude; *phobophobia*, or fear of fears; *mysophobia*, or fear of contamination; *pantaphobia*, or fear of everything.

In the third chapter he treats of the nature and diagnosis of nervous exhaustion. Among the most important distinctions to be observed are diagnosis between this malady and hypochondriasis, anæmia and hysteria. In this chapter he gives the differential diagnosis between cerebrasthenia (brain exhaustion), and myelasthenia (spinal exhaustion), both of which are included in the scope of his work.

Chapter fourth treats of the Prognosis and Sequences of Nervous Exhaustion, and the fifth of Treatment and Hygiene of the disease. Among the recognized remedies he includes metalloscopy and metal therapeutics. While admitting that magnets and the like operate powerfully through the imagination and the faculty of expectancy, he still holds that they have an essential property, as tested upon persons kept in ignorance of the real nature of the substances applied. Dr. Beard is a careful observer, and his reputation as an expert is such that his statements and opinions are entitled to serious consideration. We must not, therefore, reject his conclusions, though we may still require further evidence for full admission.

On the whole, we regard this little work as a valuable contribution to a rather obscure branch of medical practice. It is sure to interest the medical reader, and is well worthy the attentive perusal of the general practitioner, as well as those specially devoted to nervous maladies.

S. S. H.

*The Therapeutics of Gynecology and Obstetrics, comprising the medical, dietetic and hygienic treatment of Diseases of Women, as set forth by distinguished contemporary specialists.* Edited by Wm. B. Atkinson, A.M., M.D., Author of "Hints in Obstetric Practice," Lecturer on Diseases of Children at the Jefferson Medical College, etc. 8 vo. pp. 365. Philadelphia: D. G. Brinton. 1880.

This work is a companion to two similar ones brought out by the late Dr. Geo. H. Napheys, entitled "Modern Medical Therapeutics" and "Modern Surgical Therapeutics." Its preparation had been commenced by Dr. N., and was completed on the original plan by Dr. Atkinson.

The former volumes of the series have already passed through several editions, and the seventh and sixth issues respectively lately received favorable notice at our hands. The medical public are satisfied with these compilations, inasmuch as they reflect the actual state of medical and surgical knowledge, as exhibited by their leading representatives, and we believe that the same approval awaits this volume.

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*Brain Work and Overwork.* By Dr. H. C. Wood, Clin. Prof. Nervous Diseases, Univ. Pa., etc. 24 mo., pp. 126. Philadelphia: Presley Blakiston. 1880.

This is the tenth number of the series of American Health Primers, edited by Dr. W. W. Keen. The seven chapters are devoted to the following subjects: I. Are Nervous Diseases Increasing? II. General Causes of Nervous Trouble. III. Work. IV. Rest in Labor. V. Rest in Recreation. VI. Rest in Sleep. VII. Conclusion.

The subjects are of practical interest to the laity; the language is free of technicalities, adapted to the understanding of general readers; the views of the writer are sound and appropriate. While we find much to commend in the design and execution of the work, we cannot forbear noticing some faults in language, which ought to have been avoided by a writer as practiced in authorship as is Dr. Wood. Examples of false syntax occur at the bottom of p. 114 and top of p. 115, and in the fourth line of p. 121. Provincialisms here and there betray the associations of his childhood. The native Southern reader would be puzzled by the word "skimp," and Webster and Worcester would afford him no hint of its meaning. We

suggest that he might fittingly have closed with the exculpatory petition of the letter writer, " Excuse haste and a bad pen."

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*The Student's Guide to Diseases of the Eye.* By Edward Nettleship, F.R.C.S. Ophthalmic Surgeon to St. Thomas' Hospital. With 89 illustrations. 12 mo. pp. 369. Philadelphia: Henry C. Lea. 1880. [Sold by Armand Hawkins, 196½ Canal street, New Orleans.]

The twenty-two chapters of this book are grouped into three parts, or general heads, devoted to, I. Means of Diagnosis (three chapters); II. Clinical Division (eighteen chapters); III. Diseases of the Eye in relation to General Diseases (one chapter). The work was prepared for the use of students of medicine during their hospital course, and will be found well adapted to the needs of the general practitioner. It contains much more matter than will be found in systematic treatises on medicine and surgery upon this special class of complaints, and is more convenient for reference, being a small and handy volume.

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*The Practitioner: An Independent Monthly Journal devoted to Medical, Surgical, Obstetrical and Dental Science.* Edited by Harvey L. Byrd, A.M., M.D, and Basil M. Wilkerson, D.D. S., M.D. Volume I, No. I, January, 1880. Baltimore, Md. Subscription, $2 00 per annum.

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*The Indiana Medical Reporter: A Monthly Journal of Medicine and Surgery.* Editors and proprietors, A. M. Owen, M.D., J. E. Harper, M.D., Benj. F. McCoy, M.D. Volume I, No. I, January, 1880. Evansville, Ind. Subscription, $2 00 per annum.

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*Galveston Medical Journal.* Greensville Dowell, M.D., Editor and proprietor. J. F. S. Paine, M.D., and T. J. Heard, M.D., associate editors. Volume I, No. I. January, 1880. Terms, $3 00 per annum.

The first two above-named publications are entirely new candidates for the favor of the medical public, containing respectively 52 and 48 pages of reading matter. The first is about equally divided between medicine and dentistry, and contains several articles of interest and value. The second, among other articles, contains one on Syphilis from a Sanitary

Point of View, by Prof. G. B. Walker, M.D., of Evansville. The author takes the ground that prostitution can not be suppressed by outlawry nor by moral suasion. Therefore, recognizing the social evil as inevitable, he prefers to regard it as a sanitary problem, to be put under wholesome regulations. In this we quite agree with him. The clergy and the moralists have had trial for many centuries, resulting in conspicuous failure. Neglecting totally the sanitary side of the question, they have battled solely against the vice; meanwhile venereal diseases have constantly violated the sanctity of domestic life. It is certainly time for change of base in the warfare. Protect society from these maladies by supervision of those most liable to disseminate them, and by putting those infected under restraint. If judicious sanitation can measurably prevent venereal diseases, we need not beat the air in vain attempts to suppress the social evil; and the sentimental nonsence of encouraging vice will subside like the pious opposition to the use of chloroform in midwifery as a wicked interference with the curse of maternity.

The *Galveston Medical Journal* re-appears, after a suspension of eight years, under the management of the same senior editor. Having now the assistance of two able coadjutors, we trust that the new era of material prosperity will give better auspices to the enterprise and place it upon a permanent footing. S. S. H.

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*Transactions of the Twenty-ninth Anniversary Meeting of the Illinois State Medical Society, held at Lincoln, May 20 and 21, 1879.* 8 vo. pp. 302.

As is usual, the president's address occupies a prominent part. It was pronounced by Dr. E. P. Cook, of Mendota, and touches upon a variety of topics of interest. The work of the State Board of Health is mentioned with commendation and congratulation, particularly in its energetic enforcement of the Medical Act, which has created an exodus of more than a thousand unqualified practitioners of medicine from the State. Dr. Cook also takes a prospective view of this work, as expressed in his own words:

"Seriously we regard the work thus far done by the State Board of Health, as having accomplished more in the direction of medical education in our State than could have been done by any other means in the same or much longer time." But he is not willing to let the reform in medicine rest here. The pharmacists, he thinks, should also be subjected to similar conditions, and he is undoubtedly right, provided the law can be enforced. We should like very much to see how that Board of Health will succeed in its grand reforms, and, if it continues as it has begun, we may indulge the hope that, in the future (more or less remote), the people of Louisiana may enjoy sound medical advice and safe physic.

We are gratified to find the trite subject of medical education come in for a share of attention, because its agitation is sure to bring results. Dr. Cook advises an extension of the course from three to five years, devoting the first to preliminary studies and the last year to clinical application. That is a consummation devoutly to be wished; but we suspect that the public of Illinois get already about as good medical advice as they pay for, and that they would not agree to pay for much better, at present. (As regards the Louisiana public, it is not a suspicion but a conviction).

The same question of medical education was made a subject of report by a committee of three, and the following table is presented to show the relative number of medical men in this and the other principal civilized countries:

| | *Number of Annual Graduates.* | *Ratio to Population.* |
|---|---|---|
| United States | 3,000 | 1 to 600 |
| Great Britain | 1,750 | 1 to 1,700 |
| France | 750 | 1 to 1,800 |
| German Empire | 600 | 1 to 3,000 |
| Austrian Empire | 600 | 1 to 2,500 |
| Italy | 200 | 1 to 2,500 |

The complaint is made that our excessive number of physicians reduces the individual incomes in like ratio, but this is clearly an error. In this country wealth is more evenly distributed than in Europe, and our common people are able to

pay larger medical fees. Besides, our 40,000,000 sovereigns will not submit to such control in the practice of medicine as the subjects of paternal governments are obliged to. They claim and exercise the privilege of risking their lives in a variety of ways, apart from the perils of the healing art.

We have space to notice here only one other paper—that of Dr. E. Boyer on Compensation of Medical Witnesses. After relating a number of instances, illustrating the defects of American laws touching the recognition of the claims of experts to some compensation beyond that allowed to ordinary witnesses in matters of fact, he makes the following conclusion, which is certainly equitable and we hope may be sustained generally by courts:

"That we have a legal right to demand compensation, when called upon by coroners to make post-mortem examinations, and without an agreement to compensate, to refuse to make such post-mortem; also that we have a legal right to refuse to sit and hear testimony in courts of justice, for the purpose of giving medical-expert testimony, without compensation."

This is a bound volume, and presents a creditable appearance, both externally and internally. S. S. H.

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*Transactions of the Tenth Annual Session of the Medical Society of Virginia, held at Alexandria, October* 21, 22 *and* 23, 1879. 8 vo., pp. 152.

The address of the President, Dr. L. S. Joynes, treats of several points of interest. The discrimination between the legal and medical professions made by the law is justly complained of: "For evidence of qualification and character is required for admission to the bar, and the lawyer cannot be compelled to divulge the confidential communications of his client." Probably if the medical profession were as largely represented in our legislatures as is the legal, such partiality would not prevail. He also enters a plea in favor of the too much depreciated country practitioner by making honorable commemoration of Edward Jenner; of Ephraim McDowell, the author of ovariotomy; of Crawford W. Long, of Georgia, lately proved to have first used ether as an anæsthetic in surgery; of

Dr. Stearns, of Saratoga County, N. Y., who re-establishedergot as a therapeutic agent; of John Tennent, Thos. J. Gordon, Wm. Baynham and John P. Mettauer, all country practitioners in Virginia.

With reference to the uncertainties of medicine and the differences of doctors, he makes a comparison with the professions of theology and law. It is unnecessary here to allude to the antagonistic doctrines, all derived from the same book, which have resulted in the bloodiest deeds that stain the pages of history, for nobody expects the clergy to agree. But Dr. Joynes has applied the numerical method to the examination of law decisions, with very interesting results. Thus, taking five volumes of reports of the Appellate Court of Virginia, embracing 215 decisions, he found the judgment of the lower court affirmed 90 times and reversed 102 times. Moreover, in 34 of these cases the Appellate Court itself was divided. English court practice gives about the same results, for out of 41 appealed cases decided by Lord Justice Gifford in the first half of 1870, the previous judgment was affirmed 17 times, reversed 19 times and varied five times. In a remarkable case touching the validity of marriage (whether the usual forms and ceremonies are indispensable, or the mere consent of the main parties are sufficient), the court of first resort declared the marriage valid without the usual ceremonies, the higher court (four judges) was equally divided, and the chief justice then joined the two who were of an opposite opinion to his own, in order to take an appeal to the House of Lords; there the six law-peers rendered separate opinions at length, and *they were equally divided*. The famous decision of our Electoral Commission, three years ago, familiarly known as the "Eight to Seven," is fully an offset to any difference of doctors extant.

A Report of Advances in Hygiene and Public Health was made by Dr. Samuel K. Jackson, of Norfolk. The germ theory of disease is accepted and pursued to its utmost limit by Dr. Jackson, and he declares his belief that "All zymotic diseases will, ere long, be classed according to the biological relations of the organisms producing them." The following *resumé* of this able paper will give an idea of his views:

"We have urged that the ultimate causes of fever lie, for the most part, outside of the body, and that all sanitary questions hinge upon discovering them; that a *materies morbi*, a pyrogenic virus, is introduced into the system and produces in the blood or other fluids of the body processes similar to, or identical with, those of fermentation and putrefaction; that agents capable of arresting these processes outside of the body, are capable of preventing them in the system, and might be so used if they are not poisonous or incompatible with the health of the body; that these virulent particles, either themselves or the secondary particles developed as another stage or phase of life, enter the vascular system, find in the blood a pabulum or plasma favorable to their growth and development, and by this development setting up the processes of decomposition alluded to, and thus become a pyrogenic cause—that is, cause an elevation of temperature and all the disturbances which occur in the state we call fever. That these pyrogens existing outside of the body can be destroyed before they enter the body; that while we have at our command many means calculated to destroy them, among the most efficient are the cheapest and most accessible, viz: sulphur, sulphate of iron, sulphate of zinc, common salt, carbolic acid and refrigeration."

A very interesting clinical paper is contributed by Dr. J. Marion Sims, of New York, on Diagnosis of Abscess of the Liver by Symptoms of Cerebral Hyperæmia; with some remarks on Treatment of Hepatic Abscess by Aspiration. The cases used by way of illustration occurred in the practice of Dr. W. A. Hammond, of New York, who has learned "to associate abscess of the liver with hyperæmia of the brain, depression of spirits, hypochondria, insomnia, and unpleasant dreams, with occasional gastric derangement." The most remarkable case related, both in its clinical and its personal aspect, was that of Dr. E. S. Gaillard, formerly of Richmond, and lately of Louisville.

The following propositions have been formulated by Dr. Hammond, in an article published in the June number of the St. Louis Clinical Record, for 1878:

"1st. That hepatic abscesses are probably much more common with us than is generally supposed.

2d. That they may exist without any local symptoms, or such general disturbance of the system as is commonly regarded as indicating their presence.

3d. That they may be associated with hypochondria and other evidences of cerebral disturbance.

4th. That they should be opened at the earliest possible moment, and without waiting for adhesions to form between the liver and the abdominal wall.

5th. That the proper place for performing the operation of aspiration is in one of the intercostal spaces. This point is strongly insisted upon by Dr. Davis in his memoir.

6th. That the operation by aspiration is free from danger. Dr. Davis never saw any ill consequences from it, and Dr. Jiminey, of Mexico, states, that of the hundreds of times he has punctured the liver through the intercostal spaces for abscess, he has never once seen the operation followed by peritonitis. In a very admirable paper, Dr. Lanszky, of New York, expresses like opinion.

7th. That in all cases of hypochondria or melancholia, the region of the liver should be carefully explored; and that even if no fluctuation be detected, or any other sign of abscesses be discovered, aspiration—being a harmless operation—should be performed.

8th. That if the pus be evacuated, the operation may be expected to be followed by a cure of the mental disorder as well as by the preservation of the life of the patient from the probably fatal consequences of hepatic abscess.

9th. That if no abscess be found, the patient will, at least, be no worse off than he was before."

Several other papers, of less interest, occur in this volume, which we have not space to notice here. S. S. H.

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*Transactions of the Medical Society of the State of Pennsylvania, at its Thirtieth Annual Session, held at Chester, May,* 1879. Vol. XII. Part II., 8 vo. Pp. 490. Published by the Society.

In so bulky a volume, containing such a number of articles on various subjects, it is obviously impracticable to give a critical notice of the whole contents. Attention will, therefore, be restricted to a few of the most important papers.

The address of the President, Dr. Jas. L. Stewart, consists of a brief biographical memoir of several of the most distinguished medical men of Pennsylvania, such as Samuel Jackson, Wilmer Worthington, William M. Wallace and Washington L. Atlee.

Dr. Chas. T. Hunter made the "Address in Surgery," on the Treatment of Wounds. The subject of ligatures is promi-

nently presented, and decided preference given to the carbolized catgut. He also takes occasion to commend the treatment of divided nerves and tendons by suture of the pared ends. The immobilization of injured parts is particularly insisted on, as an essential to rapid union. Free ventilation and perfect cleanliness are regarded of more importance than the "antiseptic method" of Lister.

Dr. Wm. Goodell contributes an interesting paper on the Extirpation of the Ovaries for some of the Disorders of Menstrual Life. He is strongly disposed to regard the operation as legitimate, though he would first give trial to less heroic proceedings. He adds his testimony to that of Battey, Wells, Atlee and Peaslee, that the removal of these sexual organs is not usually followed by loss of feminine traits of character—not even loss of sexual desire—though ovulation necessarily ceases, and with it commonly menstruation. It amounts, in fact, only to a premature supervention of the menopause.

In an instructive paper on Juvenile Insanity, Dr. Isaac N. Kerlin shows that its occurrence is more common than has been generally supposed. It is highly probable that many cases regarded as incorrigible viciousness in young children are in reality the outcropping of hereditary mental disease. Dr. Kerlin's experience shows that most of these cases are amenable to treatment by the usual methods pursued with older subjects—that is to say, removal from home and management in a suitable asylum; but the permanent cure of such subjects must not be expected in the great majority of cases.

The Address in Medicine, by Dr. Andrew Fleming, was upon the subject of Emotional Fever. This term he uses to include those cases rather vaguely called *nervous fever* by many writers, and also the affection known as nostalgia. Emotional fever has no discoverable organic lesion and no definite duration, though it sometimes terminates abruptly by a crisis. He does not attribute it to any miasmatic influence, though, when induced by a sudden shock, it is frequently introduced by a rigor. The seat of the malady is referred to the ganglionic system of nerves, and, in the absence of any anatomical changes yet discovered, must be regarded as functional. The

writer claims no originality of thought in this paper. His object seems to be, to give the malady some distinctive character by which it may be recognized, with the view of judicious management by suitable hygiene and nutrition rather than active treatment of therapeutic agents.

Dr. Benjamin Lee offers some remarks on Horizontal Extension for the purpose of applying the Porous Felt Jacket for Curvatures of the Spine. His paper is illustrated by woodcuts, to show the mode of applying the extension and also the effects gained by wearing the jackets.

A distinctive feature of the Pennsylvania Medical Society Reports is the incorporation of synopses of reports of county societies. In some instances these are clinical records; in others, biographical sketches of worthy deceased members. For these we have no space. S. S. H.

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*The Hypodermic Injection of Morphia. Its Advantages and Dangers.* By. H. H. Kane, M. D. New York: Chas. L. Bermingham & Co., Medical Publishers.

Few works have issued from the press of more absorbing interest than this of Dr. Kane. There is probably no physician who at some time has not resorted to the use of the hypodermic syringe, and though fortunately, the large majority have never met with any untoward symptoms, still it is an advantage to be reminded in a work like the present, that disagreeable results are possible. We agree with Dr. Kane in his preference for glass syringes, for however perfect the metal ones may be, still the packing will sometimes dry and it is of the utmost consequence to be able to see that our syringes contain the full quantity necessary to be injected. Except by some few makers, too little attention is paid to the manufacture of the hypodermic needle. Nearly all are too large, and all of European make are simply execrable. It should not be forgotten that freedom from pain and abscess depends much on the fineness and temper of the needle. Those made by Messrs. Tiemann, of New York, and called by them Green's Needles, are unexceptionable, and are by far the best we have seen.

We would like to make some observations on the graduation

of the syringe. Unfortunately with some few exceptions this is rarely correct. Possessing a large number of hypodermic syringes, we one day tested the graduation and with the following results: In the small instrument made by Gemrig, of Philadelphia, we found the 10 divisions correspond to 20 minims. In his large ones, the line making 25 minims, only equalled 20. In four of Tieman's, which we will call A, B, C and D, in A the 10 line equalled 10 minims, but the 20 line only equalled 15 minims. In B, the 25 line only contained 20 minims. In C, the ten line only equalled 9 minims, the 20 line only 17 minims, the 15 line was correct. In D, which is the instrument called Green's syringe, all the graduations were correct.

In three syringes made by Hawksley, of London, and in two by Arnold, of London, all the graduations were correct. We would draw special attention to the syringe of Leitner, sold by Otto & Sons, of New York. Unless specially informed this may lead to grave errors as the divisions are those of the gramme, each mark, being equal to nearly two minims. We believe we know of one death resulting from the belief, that each mark represented one minim. It would be as well for every practitioner to verify his own syringe before using it.

With regard to the solution for injection, we would draw attention to the formula of Dr. Kane, at page 17, in which decomposition is prevented by using a solution of salicylic acid, although we have found that two drops of chloroform to the ounce will keep solutions indefinitely. We have solutions of atropia two years old, still perfectly bright and free from fungi. We do not agree with the author that death results from interference with the renal secretion, and must regard his experiments on the lower animals as not conclusive. In cases of recovery from extreme narcotism where antidotes have been used, recovery occurs long before the renal excretion has been established. We think too much stress has been laid upon puncturing a vein, such cases must be very rare. We have used the syringe at least 10,000 times, and have never met with such an accident, still it is well to be aware such may occur, and to take every precaution.

With regard to the ligature, the use of which is strongly recommended by the author, it is only in cases where the injection is made into the extremities that it can be of use; when the syringe is used on the trunk, face or neck, it of course, would be inadmissable.

The author relates several cases of death after the use of the hypodermic syringe, in which post-mortem examinations revealed the fact that the fatal event was due to an entirely different cause, and our own opinion is that very few deaths are absolutely the result of injections of morphine.

We agree with the author that the subcutaneous application of morphine should always be by the physician, and *never* by the patient or nurse. By taking this precaution the self-abuse of the instrument will be prevented, and there will never be any difficulty in stopping the employment of the morphia whenever desired.

We cannot too highly recommend this work of Dr. Kane, and think it supplies a much needed want of the profession. Every physician who uses the hypodermic syringe (and who does not?) should procure it and read it carefully. It is clearly and handsomely printed, is well bound, and will be an ornament to any library. J. L. C.

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*Skin Diseases, including their Definition, Symptoms, Diagnosis, Prognosis, Morbid Anatomy and Treatment. A Manual for Students and Practitioners.* By Malcolm Morris, Lecturer on Dermatology at St. Mary's Medical School, etc. Illustrated. Philadelphia: Henry C. Lea. 1880. New Orleans; Armand Hawkins, 196½ Canal street. Price, $1 75.

Mr. Malcolm Morris is one of the English representatives of the Vienna school of Dermatologists, which counts among its adherents in Great Britain such men as McCall Anderson, Hilton Fagge and Warren Tay, the two latter the translators of Hebra's classical work for the Sydenham society.

It is rarely that the task of the reviewer is so pleasant as in the case of the work whose title heads this notice. The author's task has been well done and he has produced a book which will be warmly welcomed by students of medicine as one of the best recent works upon the difficult subject of which

it treats. It is not intended to convey the impression that it is at all competent to take the place of the thorough treatises of Duhring and Neumann. These will still be necessities to those who desire to study more fully these affections. For students, however, there is no work published which gives a better view of the elementary facts and principles of dermatology.

The arrangement of the matter is simple, the definitions and descriptions clear and accurate, and the treatment suggested judicious. The differential diagnosis between affections likely to be confounded with each other is very clearly presented.

The classification is with slight modifications—that of Hebra, and is the one generally followed by modern dermatologists.

With the exception of a few important typographical errors, the publisher's work is well done. Ro.

## Books and Pamphlets Received.

*The Hypodermic Injection of Morphia. Its History, Advantages and Dangers.* By H. H. Kane, M. D. New York.

*The Therapeutics of Gynecology and Obstetrics, comprising the Medical Dietetic and Hygienic Treatment of Diseases of Women.* By William B. Atkinson, A. M., M. D.

*Sanitary Organization of Nations.* By Henry I. Bowditch, M. D. Reprint from the Boston Medical and Surgical Journal.

*Posture in the Treatment of Intestinal Colic and Ilius; with a consideration of the Pathology of "Spasmodic Colic."* By Frank H. Hamilton, M. D.

*Boraic Acid. A New Remedy in Eye Diseases.* By Samuel Theobald, M. D., Surgeon to the Baltimore Charity Eye and Ear Dispensary, etc. Reprint from the Medical Record, Feb. 7, 1880.

*Norris on the Discovery of an invisible or Third Corpuscular Element in the Blood.* By Mrs. Ernest Hart. From the London Medical Record.

*Partial Forward Dislocation of the Head of the Humerus or Backward Displacement of the Tendon of the Long Head of the Biceps Flexor Cubiti—Replaced After the Lapse of One Month.* By David Prince, M. D., of Jacksonville, Ills. Reprint from St. Louis Medical and Surgical Journal.

*The Fallacies of Popular Clinical Medicine.* By Jarvis S. Wright, M. D., Professor of Surgery. An introductory lecture delivered at the Long Island College Hospital, Brooklyn, N. Y., February 5, 1880.

*Second Annual Report of the Health Commissioner of Milwaukee*, January, 1880.

*Richmond as a Manufacturing and Trading Centre; including a Historical Sketch of the City.* By R. A. Brock, Esq., Corresponding Secretary Virginia Historical Society.

*A System of Medicine.* By J. Russell Reynolds, M. D., F. R. S., Fellow of the Royal College of Physicians of London, etc., etc. With numerous additions and illustrations. By Henry Hartshorne, A. M., M. D. Fellow of the College of Physicians of Philadelphia, etc., etc.

*Clinical Lectures on the Diseases of Women, delivered in St. Bartholomew's Hospital.* By J. Matthews Duncan, M. D., LL. D., F. R. S. E.

*A Manual of Pathological Histology.* By V. Conil, Assistant Professor in the Faculty of Medicine of Paris and L. Ranvier, Professor in the College of France. Translated with Notes and Additions. By E. O. Shakespear, A. M., M. D., Lecturer on Refraction and Operative Opthalmic Surgery in the University of Pennsylvania, etc., etc., and I. Henry C. Simes, M. D., Demonstrator of Pathological Histology and Lecturer on Histology in the University of Pennsylvania.

*A Plea for Cold Climates, in the Treatment of Pulmonary Consumption. Minnesota as a Health Resort.* By Talbot Jones, M. D., of St. Paul, Minn. Reprint from the New York Medical Journal, 1879.

*Twelfth Annual Report of the New York Orthopœdic Dispensary and Hospital.*

## Meteorological Summary—February, 1880.
## Station—New Orleans.

| Date. | Daily Mean Barometer | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. | General Items. |
|---|---|---|---|---|---|---|
| 1 | 30.09 | 51.2 | 73.0 | N. E. | .62 | Highest Barometer, 30.547, on 7th. |
| 2 | 29.79 | 50 5 | 62.7 | West | 1.69 | Lowest Barometer, 29.600, on 2d. |
| 3 | 30.13 | 50.7 | 46.0 | N. W. | | Monthly Range of Barometer, .947 |
| 4 | 30.26 | 52.7 | 50.7 | North | .... | Highest Temperature, 77° on 27, 28. |
| 5 | 30.35 | 48.7 | 68.3 | N. E. | .43 | Lowest Temperature, 43° on 2, 3, 4, 6. |
| 6 | 30.44 | 50.5 | 57 0 | N. E. | .02 | Monthly Range of Temperature, 34°. |
| 7 | 30.47 | 50.2 | 48.7 | N. E. | ... | Greatest Daily Range of Temperature, |
| 8 | 30.35 | 56.2 | 60.3 | East. | .... | 19° on 10th. |
| 9 | 30.28 | 58.2 | 80.0 | N. E. | .... | Least Daily Range of Temp., 8° on 12, |
| 10 | 30.26 | 61.7 | 79.0 | East. | .... | 19. |
| 11 | 30.11 | 66.0 | 84.0 | S. E. | .03 | Mean of Maximum Temperatures, 65.9° |
| 12 | 29.87 | 69.2 | 86.7 | South | .... | Mean of Minimum Temperatures, 53.7° |
| 13 | 29.91 | 60.2 | 57.0 | S. W. | .16 | Mean Daily Range of Temp., 12.2°. |
| 14 | 30.11 | 58.5 | 48.7 | N. W. | ... | Prevailing Direction of Wind, N. E. |
| 15 | 30.33 | 56.7 | 52.7 | North | .... | Total Movement of Wind, 5,499 miles. |
| 16 | 30.33 | 59.5 | 59.7 | East. | .... | Highest Velocity of Wind and Direc- |
| 17 | 30.26 | 65.0 | 68.0 | S. E. | .... | tion, 32 miles, West on 2d. |
| 18 | 30.21 | 66.5 | 84.7 | S. E. | 1.15 | Number of Clear Days, 3. |
| 19 | 30.38 | 57.5 | 71.3 | North | .31 | Number of Fair Days, 11. |
| 20 | 30.29 | 56.7 | 62.7 | East | .03 | Number of Cloudy days on which no |
| 21 | 30.10 | 61.7 | 80.7 | N. E. | .08 | Rain fell, 8. |
| 22 | 30.09 | 60.5 | 82.7 | North | .... | Number of Cloudy Days on which |
| 23 | 30.11 | 66.5 | 77.3 | West | ... | Rain fell, 7. Total number of days |
| 24 | 30.08 | 65.7 | 77.0 | S. E. | .... | on which rain fell, 12. |
| 25 | 30.01 | 69.5 | 78 3 | South | .... | Dates of Luna Halos, 19, 23, 27th. |
| 26 | 39.02 | 70.7 | 81.0 | S. W. | .01 | COMPARATIVE TEMPERATURE. |
| 27 | 30.07 | 70.5 | 72.2 | South | .... | 1871..... \| 1876..... 58.9° |
| 28 | 30.06 | 72.2 | 73.7 | S. W. | .... | 1872..... \| 1877..... 55.9° |
| 29 | 30.09 | 68.0 | 78.0 | N. W. | .09 | 1873 .....60.5° \| 1878..... 55.5° |
| | | | | | | 1874.....59.1° \| 1879..... 55.8° |
| | | | | | | 1875..... 55.9° \| 1880..... 60.4° |
| | | | | | | COMPARATIVE PRECIPITATION |
| Sums | | | | | | 1871.....inches. \| 1876: 8.20 inches |
| Means | 30.168 | 60.4 | 69.1 | N. E. | 4.62 | 1872..... " \| 1877: 0.98 " |
| | | | | | | 1873..1 93 " \| 1878: 3.50 " |
| | | | | | | 1874..3.68 " \| 1879: 2.13 " |
| | | | | | | 1875..13.85 " \| 1880: 4.62 " |

GEORGE H. ROHÉ,
*Sergeant, Signal Corps, U. S. A.*

## Mortality in New Orleans from February 15th, 1880, to March 21st, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| February 22 | 0 | 6 | 16 | 0 | 9 | 88 |
| February 29 | 0 | 4 | 14 | 0 | 12 | 1 9 |
| March 7 | 0 | 1 | 14 | 0 | 8 | 82 |
| March 14 | 0 | 2 | 8 | 0 | 9 | 78 |
| March 21 | ..... | 0 | 18 | ..... | 10 | 85 |
| Total.... | 0 | 13 | 70 | 0 | 48 | 442 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

MAY, 1880.

## ORIGINAL COMMUNICATIONS.

### Interpretations of the Structure and Function of the Kidney.

By ANDREW W. SMYTH, M. D.

The anatomy and physiology of the mammal kidney have remained, to this day, as much matters of inference as of observation. There are some points on which our knowledge is complete, but the undoubtedly erroneous theories of the structure and uses of the malpighian bodies, have obstructed human thought and progress by false notions of the mechanism of secretion.

To authors and students of surgery the name of Dr. Andrew W. Smyth has for some years been familiar, especially for his great case of ligature of the innominate, carotid and vertebral arteries. His lucid remarks on the collateral circulation in aneurism, published in 1876, proved him to be as earnest a physiologist, as he was skilful a surgeon.

For many years past he has persistently objected to the description by Bowman, of the relation between the malpighian bodies and the tubuli uriniferi. With special mechanical aptitude, Dr. Smyth has devoted much attention to the microscope, and he has been subjected even to supercilious criticism

for having had one constructed of silver, oroid, aluminium, and in part even of gold, that he might possess a perfect, smoothly working instrument in the New Orleans atmosphere which so promptly tarnishes other metals.

Having failed, at all times, to trace a connection between the capsule of the malpighian body and the interior of a uriniferous tube; having likewise observed that the hyaline membrane, enclosing each glomerule, was unprovided with epithelium, essential to every secreting structure, Dr. Smyth perceived that so delicate a sack would rupture, and the plexus be destroyed, if subjected to hydrostatic pressure, either during secretion or from accidental regurgitation.

The only conditions under which the transudation of water, and its collection for onward flow as universally admitted, could have existed, would have been some mechanism for filtration from the vessels a contractile reservoir, and a valvular opening into the uriniferous tube. The soundness of this view will appear as we proceed.

The kidneys, lodged in the lumbar region, receive a direct and abundant flow of blood from the aorta, and are more than any other glands under the direct influence of cardiac energy.

They have smoothly rounded contours, and, when their inelastic capsules are pierced, the parenchyma is found granular, compact and solid, normally incapable of expansion and contraction, except as a whole.

At the hilum of the kidney we trace the ureter into the pelvis, into which project the conical ends of the pyramids of Malpighi. From the infundibula, in the conical apices, the straight uriniferous tubes radiate outward; they subdivide, so that their area, with their epithelial contents, increase and expand, into the pyramidal base of the convoluted tubes, towards the outer surface of the kidney. The tubes are individually larger at their orifices than at the pyramidal basis.

The form and structure of each malpighian pyramid indicate a necessary and independent purpose in the mechanism of secretion. For it is evident that a moderate constriction, throughout the substance of the broad base, will cause a rapid

and certain flow through the straight tubes and their outlets in the infundibula.

The ample, short and stout, renal arteries, subdivide into straight and important branches, which go directly towards the cortical portion of each pyramid, and here give off terminal branches, right and left, which constitute the afferent vessels of each malpighian body or glomerule.

The artery of each glomerule splits up into coiled loops and branches, which are traced inward towards the center and join together to form an efferent vessel. This, on emerging from the hilum of each malpighian body, subdivides into the abundant vascular net-work supplying the convoluted uriniferous tubes.

Having carefully examined the relations of these vessels to surrounding structures, Dr. Smyth perceived that the capsule, wrongly supposed to be the origin of each uriniferous tube, had no intimate structural relation with the ample vessels of the glomerule. It simply sheathed them. It was in fact a periplexus, and by this name Dr. Smyth proposes it shall be known. Around this periplexus, are the convoluted tubes, with that abundant spheroidal and polyhedral epithelium supplied by blood from the capillary net-work into which the efferent malpighian vessels are divided.

A feature brought out by many injected specimens is the apparently constricted aspect of the efferent vessel, compressed by the more readily injected afferent vessel and its external coils. This is important, according to Dr. Smyth, in explaining how the forces which come into play govern the action of the gland as hereafter to be explained.

In fresh sections of the cortical structure, it frequently happens that a glomerule drops out of its periplexus, and this is seen of extreme tenuity, constituting the boundary of a perfectly empty sac. There is no epithelial lining, and the glomerule when visible fills the cavity entirely, or partially, according to its state of distention. This distention is kept within bounds by the manner in which the individual loops sustain each other, and are, *en masse*, when unduly filled, supported by the periplexus.

On the 3d of June, 1879, Dr. Smyth had occasion to extirpate a floating kidney from a woman. For eight years a pain in the right side had rendered life unendurable, and had actually impaired the mind. Dr. Greensville Dowell, of Galveston, Texas, brought her to Dr. Smyth in the preceding month of April, with request that he should attempt the removal of what Dr. Dowell believed, at the time, was the fons et origo mali--the floating kidney. An incision in the right side of the lumbar region, and forcing the organ into its place by pressure upon the abdomen, enabled Dr. Smyth to grasp it. He had anticipated the impression which its strong pulsation produced on his mind, and he asked Dr. C. B. White, one of the attending physicians, to notice this pulsation. Dr. Smyth observed that as the organ filled, under the direct action of the heart, confined as it was in an inextensile capsule, a pressure inward in all directions, from the base to the apex of every malpighian pyramid—from the outer surface of the cortical structure, to the center of the renal pelvis—was inevitable.

This general behavior of the kidney had been his interpretation of the purpose of each malpighian body. This, under the direct pulsating influence of the heart, distends in all directions. The cortical structure is studded in regular and nearly equidistant parallel rows with these spherical objects, capable of equal distension in all directions. Every heart-beat is attended by turgescence of the glomerule. The loops from their position and form must swell outward and inward in all directions, and, constricting the efferent vessel, momentarily impede the blood's exit. At each cardiac diastole, the arterial column sustaining the blood in its channel, the malpighian loops recoil and fill the current in the secreting vascular rete. And this is Dr. Smyth's view of the special function of the malpighian bodies. Their alternate turgescence constituting a "rhythmic vascular impulse," a uniform, safe and sufficient expelling pressure is maintained on the coiled tubes, and indeed on the whole excreting structure of the kidney.

Those acquainted with the laws which govern the flow of liquids, can readily understand, that the power required to maintain a circulation, beyond the coils of the glomerule, would

be destroyed, if a mere physical transudation could occur through the loops, so well-disposed to bring the very active pulsation to bear on the maintenance of a circulation. A flow outward from the vessel would constitute a leak in the tube. If filtration, as it is termed, had to take place, the blood vessels would have been so disposed, as, when filled, not to press on one another, or against a periplexus—vessel to vessel, and vessels to capsule—in a manner which can only serve to keep the fluid in its regular current. The incompressibility of water is often forgotten, and it is evident, that if at each pulsation a flow had to occur, there would be provision for a relief of pressure and not for its increase at the moment of outlet. That increase inevitably occurs; and if space and structure had been provided for the free and abundant aqueous filtration, is it not evident that the uriniferous tubes, having—for argument's sake—an opening into each periplexus, would be subjected to a strong and intermitting spurt of water, driving before it the epithelium and tending to expose the delicate tube to the destructive action of the urine?

When the general expansion of the malpighian bodies has driven on the urine, the efferent vessel being then relieved of undue pressure, the blood vessels of the secreting rete, which have also been subjected to systolic pressure, are left free to carry on the blood flow.

The unmistakable constriction of the efferent vessel, on the filling of each glomerule, causes an alternation between clearance of the tubuli and the flow of blood in the secreting vascular rete.

The glomerules are filled during the heart's systole; the secreting rete is turgid during the heart's diastole.

A physiological point to which Dr. Smyth directs attention, is that the commonly received opinion of a portal circulation in the human kidney is not justified by the facts. There is an identity, in so far as a branching of a vein is concerned, if the efferent vessel can be regarded as a vein; but, in truth, no change, or only that due to the slight nutrition of the plexus itself, occurs in the blood as it passes through the glomerule.

It is evident that in a solid glandular organ, confined within

a non-extensile covering, a fancied filtration into the secreting tubes, and their consequent distention by systolic pressure, would oppose and obstruct the circulation in the adjacent blood vessels There cannot be filtration by pressure.* On the contrary the compression and emptying of the tubuli with the systole of the heart, must proportionally increase the circulation of blood through the organ. This is precisely the effect produced by the action of the malpighian bodies. The secreting and vascular structures are not distended simultaneously, but alternately. The expansion of the tubuli, during the heart's diastole, assists the draining into the tubuli from the secreting vascular rete.

We have reason to believe that a low tension of blood in glandular organs facilitates secretion. The largest secreting glandular organ in the body is situated at the point of lowest blood tension in the circulation. Pressure must antagonize cell accretion so that relief from pressure during secretion is important.† It can readily be perceived how admirably these conditions are fulfilled in the circulation of the kidney. The distention of the glomerule with constriction of the efferent arteries causes an onward movement to the hilum of the contents of the whole secreting structure. These glomerules are practically reservoirs in a state of fullness ready to supply instantly a large volume of blood at minimum tension to the secreting rete. The quick, sharp expulsion, and the longer intervals of quiescence, with the incident variations of

*Filtration from the glomerule into the malpighian capsule would be, mechanically identical with filtration from the heart into its pericardium, utterly impossible,—whether the capsule does or does not communicate with the tubuli.

†In cases of obstructed uterer from impacted calculus, pressure, arresting the flow of excreted urine, arrests secretion itself. This pressure in the excreting tubuli, neeessarily equal to the force exerted to expel the calculus to the bladder, would if the tubuli communicated with the malpighian capsules, so distended them as to destroy the structural integrity of the organ. The laws of hydrostatics demonstrate this to be inevitable. The expelling force is the systolic action of the heart, increased by the special action of the malpighian bodies. This is shown by the continuation of the circulation of blood through the organ during the time of this critical pressure, which, in many instances, continues several days.

tension, constitute the best conditions for functional renal activity.

In accordance with the views herein expressed and in proof of the use and function of the malpighian bodies, a highly satisfactory explanation can be given of the way in which the functional activity of the gland is adjusted to the varying necessities and exigencies of the general system.

When, synchronously with the systole of the heart, the current of blood commences to flow, it goes directly forward through the gland. The condition of the gland at this instant is favorable to such a flow. As soon as the current has acquired a certain degree of velocity, a rhythmical constriction, more or less complete of the efferent artery takes place. The sudden interruption of the onward current by this constriction, forcibly distends the glomerule—increasing the glandular action.* None who are familiar with hydraulics will have any difficulty in understanding the mechanical effect produced in this way.

The rhythmical constriction of the efferent artery, following the systole of the heart, it will be seen governs the action of the gland in the most varied and effectual manner. It regulates the circulation for the double purpose of secretion and

* The functional activity of the kidney increases with the circulation of the blood, and with the diminution of tension during the diastolic period. This result is aided by the hydraulic-ram action of the malpighian bodies, which more forcibly compresses the structures contained within a non-extensile covering. It is impossible to conceive of an increased circulation of blood without a corresponding increase of systolic pressure; so that the functional action varies with the alternations of tension in the gland during systolic and diastolic periods. The systolic tension caused by distending arteries, increased as it is by the consequent sudden interruption of the circulation, and so arranged as to compress and force onwards the blood in capillaries and veins as well as the contents of the secreting tubes, is the most effectual action possible for subsequent diminution of tension during the diastolic period. The tension during the diastolic period must diminish with increase of the systolic tension.

We find in organs of quickly varying functional activity, such as the brain and the kidney, constricting arterial plexuses which, operating in conjunction with the heart's systole, instantly increase the circulation of the blood, and consequently the functional action by intensifying the systolic pressure.

expulsion: the obstructed blood is furnished to the secreting rete, at a low tension, and its mechanical energy is utilized in facilitating secretion, and expelling the excrement from the gland.

Thus we have an admirable combination of forces and influences, operating to ensure the adjusted and continued action of the gland. Energy is applied in the most effective manner, to forcibly and quickly expel the secreted fluid. Its retention would arrest the glandular action. Secretion could not go on without expulsion.

So manifest and effective a function is incompatible with the still credited discharge of the greater part, namely, the abundant water of the urine, by the glomerule.

In considering the agencies effecting the blood's circulation, we must recognize the existence of rhythmical variations of tension in many favorably located, free and independent, yet synchronously acting plexiform, vascular loops; and as a result of this, the alternating compression and relaxation of confined organs incapable of expansion beyond the limits of inextensile coverings. That the distension of the arterial system acts as an essential auxiliary in carrying on the circulation of blood is evident.* It rhythmically compresses capillaries, veins and in fact all adjacent structures within their respective enclosures—sacs, sheaths, or similar membranes. And this pressure, regulated by constriction, must necessarily be followed everywhere by correlative relaxation.†

*It is the pressure from this distension that causes absorption of solidified aneurisms and inactive arterial trunks, after ligation.

†A continuous, uniform pressure of blood cannot exist in the arterial system; for no organized animal structure is capable of withstanding for any length of time, without remissions, the mean arterial blood pressure. Aneurisms of considerable size represent nearly the mean tension of blood in the arterial system, which of course is considerably less than the systolic pressure, and we know that all structures, including cartilage and bone, disappear,—are absorbed or destroyed,—even by this tension continuously applied. Neither nutrition nor secretion can go on against such a pressure. We are therefore warranted in believing that all organs having a direct arterial communication, and enclosed within an inextensile fibrous sac, must have their functional action arrested by pressure during the period of the heart's systole. A knowledge of phy-

Dr. Smyth many years since directed attention to the fact that the structural circulation of the heart occurred during this organ's diastole.* The cardiac arteries fill when the contractions cease, and the analogy in the circulation of the renal secreting rete beyond the glomerule is obvious. The importance of this in the circulation is evident, when we consider that the heart's diastole occupies more time than the systole, in the proportion, according to Valentin, of three-fifths to two-fifths. It was found by Donders in a large number of observations, that whilst the duration of a complete cardiac revolution varied between 0.640 and 0.806, the duration of a ventricular systole fluctuated within very narrow limits, namely, between 0.301 and 0.327.†

The special exercise of energy in the propulsion of blood, by the blood vessels themselves, has long since been regarded as non-existent. The heart is the engine; and the modifying or regulating influences at a distance from the heart, have been defined without reference to any such special action, as Dr. Smyth has so happily discovered. Mr. Bowman was literally correct‡ when he described the circulation in the malpighian body itself. He said: "A large artery breaks up in a very direct manner, into a number of minute branches, each of which suddenly opens into an assemblage of vessels, of far greater aggregate capacity than itself, and from which there is but one narrow exit. Hence must arise a very abrupt retardation in the velocity of the current of the blood. The vessels, in which this delay occurs, are uncovered by any structure; they lie bare in a cell."

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sics enables us to readily understand that an interrupted or intermittent action of the brain may, practically, be of continuous effect. The periods of diastolic laxity are periods of functional action. In fact, it may be said that the sum of these periods constitutes the actual time of animal existence.

*Southern Journal of Medical Sciences, New Orleans, La., February, 1867.

†Hermann's Physiology, translated and edited by Dr. Arthur Gamgee, F. R. S., London, 1878.

‡Phil. Transactions, 1842.

Bowman simply erred in his interpretation of the use of this arrangement; for he thought "it would indeed be difficult to conceive a disposition of parts more calculated to favor the escape of water from the blood than that of the malpighian body." Dr. Smyth has shown, that which is self-evident when perceived, namely, that a simply retarded flow in a tightly packed structure, cannot favor transudation, but does favor expulsion and the blood's vis-a-tergo. The fact that the malpighian bodies of the parrot and the boa are so minute, and that in these animals the urine is almost solid, was regarded by Bowman as proof of the watery filtration from the glomerule. But on the other hand in these animals the urine is scanty, the uriniferous tubes are small, and the mechanical work of discharge lessened.

In those animals in which the malpighian bodies open into the uriniferous tubes, the expulsive function of the plexuses still comes into play; but nature provides a ciliated epithelium and the structure of the kidney is open and even loose. In the mammalian kidney a ciliated epithelium could not work, and the tubes are filled with an abundant spheroidal secreting lining. No ciliated epithelium crammed in the contorted passages, could effect expulsion like the "pulsating propellers" acting by lateral expansion in all directions, all working in strict harmony, and with admirably distributed force.

The facts that in the evolution of the kidney in the invertebrata, the malpighian capsule is not necessarily a terminal dilation of the uriniferous tubes, and that in some the blind end containing the glomerule, as in bdellostoma, is actually constricted off, lend great support to Dr. Smyth's observations. That the plexus may operate in the renal circulation in the same way, whether the periplexus be perforate or imperforate, is quite clear, and it is also certain that secreting vessels in all glands are disposed in the stroma and secreting membranous walls and not in the form of plexuses of the nature of a glomerule.

Whatever accident may have led to an apparent connection between the delicate fibrous sheath enclosing the coiled vessels, and the secreting structure with its manifest and indispensable

epithelium, it is evident from Dr. Smyth's prolonged investigations, that the condition could not be normal. Messrs. Todd and Bowman thought they proved the continuity in several ways and especially by specimens which had been carefully injected from the artery. In these, not unfrequently, the colored material escapes and extravasates from the vessels of the tuft into the cavity of the capsule and thence into the tube. But such post-mortem infiltration is unverified or not paralleled by the most extensive research in examining normal structures. As Dr. Lionel S. Beale with his usual caution and clearness has said, "In the common newt or eft (triton or lisso-triton) we have, so to say, a natural dissection of the elements of the gland structure, and we may *demonstrate* an arrangement, the existence of which we can only *infer*, by an examination of thin sections of the compact kidney of mammalia."

Not only does the presence of the malpighian bodies in animals secreting solid urine, refute the idea of a watery filtration by them, but so also do Dr. Smyth's observations on the absence of that essential element in a secreting structure, epithelium, as first shown by Mr. Bowman. Dr. Beale also has said, "The appearance of epithelium upon the surface of the vessel is caused by the loops of capillaries being shrunken and collapsed. When distended with transparent injection, no such appearance is observable; but here and there a few small granular cells are observed. Masses of germinal matter or nuclei are connected with the walls of these vessels, as well as those in other tissues."

The secretion of urine is constant and incessant. Its expulsion must be equally continuous. Stagnation of this excretion would imply disintegration of tissue; and for this reason, each malpighian body, and the entire kidney, act alike in forcing on whatever has to flow. The velocity of the discharge increases from the time the urine begins to accumulate in the convoluted tube, to its passage to the straight tubes, which, enlarging in individual diameter actually contract and activate the flow, by a reduction of area in their coalescence. Tardy at first, the ejection into the calices must be rapid and forcible at every heart-beat. Arrest is impossible in so peculiar a gland.

The flow is as incessant and involuntary as the cardiac action until muscular passages and a muscular bladder are reached.

The wide bearing of the law now promulgated that the mechanism of secretion is intimately related to and partly dependent on the direct percussing energy of the heart, is another happy illustration of the complex phenomena resulting from simple mechanical arrangements. Once this aid or stimulus to secretion in the kidney suggested itself, the analogy with the mechanical excitants of the salivary and mammary glands became obvious.

Briefly, the facts tending to disprove the correctness of the theory generally entertained of renal secretion in the mammalian kidney, may be stated as follows:—

1. It is founded on the assumed existence of a permanently open communication between the renal tubes and the capsule of the malpighian bodies. This communication is not stated to have ever been seen by Beale, while its existence has been positively denied by Huschke, Reichert, Gerlach, Bidder, and others. If it existed, there is no reason why it should not as readily be demonstrable, and as often have been seen, as the vascular communications.

2. It is based on the belief that water can be separated from the blood by filtration through blood-vessels without the action of glands and without even the presence of glandular structure; and that the filtration takes place against an external pressure at least equal to if not greater than that within the blood-vessel; thus suggesting an exception to the rule of secretion into tubes in the direction of least resistance.

3. It requires the capsule of the malpighian body, an unprotected hyaline membrane, to act as a reservoir connected with tubes excreting a fluid capable of rapidly destroying its structure, as well as that of the glomerule contained within it.

4. In works on the subject the open communication between the tubes and the capsules is shown, in stereotyped diagrams, to be many times larger than the vascular communications of the glomerule.

Every diagram or illustration is on its face a positive demon-

stration that certain destruction by hydrostatic pressure of both capsule and glomerule must attend an obstructed outlet—a condition known to occasionally occur.

5. The theory is contrary to well-known physical laws as well as to recognized physiological facts.

6. It does not show any mechanism for varying the functional activity in a gland having great variation of functional action.

7. Even if it were demonstrable that there is an actual communication between the tubuli and the capsule, the facts and arguments here adduced would still invalidate the generally accepted theory of renal secretion.

Viewed with clearness and precision the mechanism of renal secretion explains many pathological conditions which have hitherto received very unsatisfactory elucidation.

The pallid, sallow, bloated, and enfeebled aspect of a man with heart disease, is but the counterpart of the sufferer from chronic inaction of the kidney. Impairment of the first arrests the functions of the second.

The relation of certain forms of hæmaturia to scanty urine; the resulting anæmia, hectic, and even active blood poisoning, due to a chronic nephritic condition, relieved by astringents, stimulants and generous support, are readily explained.

Dr. Todd long since stated in his clinical lectures, that in contracted kidney, the "coats of the minute arteries, particularly their longitudinal fibres, are often more or less hypertrophied and these vessels themselves frequently very tortuous (the canal of a minute efferent artery being blocked up with oil, while the malpighian body to which it leads is wasted and shrunk up); and the malpighian capillaries are generally thickened and opaque. In some kidneys of this kind, you will find distinct streaks of a whitish material, following the direction of the tubes of the cones; these you may pick out with the point of a knife or a needle, and upon examination you will find them to consist of lithate of soda, which has remained in the tubes. When this deposit is met with in the kidney, the same salt will be found deposited, in greater or less quantities in other parts of the body."

No case can better illustrate the evils of a defective clearance of the kidney's structure by impaired mechanism.

Dr. Todd has likewise shown how obstructions to the circulation, due to chronic bronchitis and emphysematous disease of the lungs, with extreme impediment to breathing, may indirectly produce congestion of the kidneys and rupture of the malpighian capillaries. The imperfect aeration and secretion over the respiratory mucous surface, unduly force on the renal secretion. The heart laboring to overcome the thoracic impediments impels with extra force the systemic and hence the renal flow to the actual rupture of the terminal arteries of the kidneys and formation of blood clots.

"Let me caution you," said Dr. Todd, addressing his students, "to keep in view the complications which are apt to accompany these renal diseases." * * * "Of these complications diseased or weakened heart is one of the most frequent, as well as one of the most serious."

A highly instructive and common pathological condition of the kidney, is that attendant on scarlet fever, especially in cold weather. The malphigian bodies are highly congested; their impulse being exaggerated, liquor sanguinis actually flows, not into the periplexus, but into the uriniferous tubes. The urine becomes albuminous and often bloody. The most dangerous and deadly, because permanently most obstructive to urinary secretion, is the so-called glomerulo-nephritis or inflammation directly invading and destructive of the malphigian body.

It is not improbable that these new views relating to the urinary secretion may shed much light on the nature of yellow fever symptoms and complications. A rapidly reduced heart action and typically slow pulse—notwithstanding a continued high tempertaure,—may explain a mere physical arrest of the kidney's function. Suppression of urine is perhaps the most dreaded of all symptoms; and well may it be, when the restorative influence of a vigorous heart action is impossible with blood changes, extravasations and black vomit.

The presence of tube casts so frequent in the urine is explicable on the theory, that the convoluted tubuli are loops within which the secreted fluid must flow in opposite directions from

sites of actual stasis. At these sites tube casts, and, under certain conditions, other urinary deposits are allowed to form.*

Brief and scanty as these pathological references are, they are cited as suggestive of many more. A just interpretation of function is essential to a correct interpretation of disease. It is the faculty for making this interpretation, which I have found conspicuous in Dr. Smyth, that has induced me to commit to writing views which he has developed in repeated conversations. The important parts of this paper he has either written or dictated, and all have received his sanction and careful revision.

J*** G*****

NEW ORLEANS, LA., April 8, 1880.

## The Microscopical Investigations of the Havana Yellow Fever Commission.

Address before the Louisiana State Medical Society.

By GEORGE M. STERNBERG, SURGEON. U. S. A.

*Mr. President and Gentlemen :*—I shall endeavor to give you this evening, some idea of the nature of the investigations which engaged my attention last summer, while in Havana, as a member of the Yellow Fever Commission, and of the supplementary studies which the liberal policy of the National Board of Health has enabled me to make since, and in the prosecution of which I am now a temporary resident of your city.

The invitation to address you not having been received until Tuesday morning, I have had very brief time for preparation, and this, I trust, will be accepted as some excuse for the rambling and disconnected form of the impromptu remarks which I expect to make in explaining to you the points of interest concerning the photo micrographs taken in Havana and in this

*That the convoluted tubuli are nothing but loops is made clear by the invariable disruption on attempts being made to inject them, as may be seen in prepared specimens.

city, which will be projected upon the wall for your inspection.

The Havana Commission received the following instructions from the National Board:

"*First.* To ascertain the actual sanitary condition of the principal ports of Cuba from which shipments are made to the United States." * * *

"*Second.* To increase existing knowledge as to the pathology of yellow fever." * * *

"*Third.* To obtain as much information as possible with regard to the so-called endemnity of yellow fever in Cuba, and the conditions which may be supposed to determine this endemnity." * * *

"The three points above referred to are believed to be those which will most certainly yeild results to scientific investigation; and which, therefore, should receive the special attention of the Commission."

In the division of labor made by the members of the commission, the duty of conducting the investigations under the first and third of the above headings was assigned to the chairman of the Commission, Dr. S. E. Chaillé; and that of conducting the investigations under the second heading to Dr. J. Guiteras; while my attention was chiefly given to investigations contemplated in the following additional intructions:

"But, in addition to these, the National Board desires that the commission shall consider certain problems relating to this disease; problems which may be entirely insoluble, but which nevertheless are of such importance that an effort should be made to decide whether the National Board of Health will be justified in undertaking the labor and expense which will probably be required to obtain anything like a complete solution of them, if such solution is at all possible. *These problems relate to the nature and natural history of the cause of yellow ferer.*" * * *

This then, gentlemen, was the task set before me. To determine the nature of the yellow fever poison; to answer the question which is uppermost in our minds whenever this disease

is mentioned, and which has heretofore baffled all research. Is it an emanation from the human body? Is it a gas generated external to the body? Is it a bioplast? Is it a germ?

I might well have hesitated before undertaking this unpromising investigation, if the language of our instructions had implied that the National Board considered this an easy task, and one which they expected would be accomplished during our brief stay in Havana. But you will observe that no such result was anticipated, that the difficulty of the undertaking was fully appreciated; and that the work of the Havana Commission in this direction was looked upon as pioneer work, "to decide whether the National Board will be justified in undertaking the labor and expense which will probably be required to obtain anything like a complete solution of them, if such solution is at all possible."

Now, I have great faith that science will eventually solve these problems, but had little expectation that my feeble efforts for three months, in Havana, would do more than to clear away some of the difficulties and make the solution easier for future investigators. I therefore had no hesitation in undertaking to do my best to fulfil the expectations of the National Board, without troubling myself as to whether a failure to find the germ would be considered a serious neglect of duty by the expectant public, or would be seized upon as a proof that there is no germ, by the wise men who having, without any investigation at all, pronounced positively against its existence, are naturally anxious to have a chance to say, "I told you so." The truth is that we are yet a long way from settling this question. But I think I may safely say as the result of my investigations in Havana, that *there is no gross and conspicuous germ or organism*, (such as I saw in the Mardi-Gras procession for instance,) *either in the blood of yellow fever patients or in the air of infected localities*, which by its peculiar appearance or abundant presence might arrest the attention of a microscopist and cause suspicion that it is the veritable germ of yellow fever. By gross and conspicuous germ I mean an organism, the morphological peculiarities of which are readily made out with a first class modern objective, such as the Zeiss 1-18, which I

used in Havana. The *Bacillus anthracis* of splenic fever; the *Spirillum Obermeieri* of relapsing fever; and the bacillus of pig typhoid, or infectious pneumo-enteritis, all come under this head. Yellow fever, so far as the germ theory is concerned, may therefore be classed with cholera, typhoid fever and the malarial fevers, which, by a process of reasoning similar to that commonly used for yellow fever, are very generally believed to be germ diseases.

It is true that the recent investigations of Klebs and Thomason in the vicinity of Rome, have resulted in the discovery of what they believe to be the veritable germ of malarial fever; but these observations require verification, and I may say here that I am instructed by the National Board of Health to repeat their experiments, and to seek their *Bacillus malariæ* in the swampy grounds in this vicinity.

But little attention has been given in this country to such investigations as I am engaged in, but in Europe numerous microscopists and men of science have devoted more or less time to them.

Ehrenberg first studied "dust" in 1830, and sought for the cholera germ in 1848. In 1849, Swayne, Britton and Budd claimed that numerous annular cells found in the dejections of cholera patients and in the dust of wards where cholera patients were treated bore a causal relation to the disease. This was disproved by Robin, by Dundas Thompson, and others. The experiments and the lectures of Professor Tyndal upon dust and atmospheric germs are classical; Pasteur's demonstration of the role played by the minute organisms known under the general name of bacteria, in processes of fermentation and putrefaction are familiar to all of you; and his recent important announcement in regard to the cause and prevention of chicken cholera shows that he is still actively engaged in these important investigations, which have given him world wide fame.

You are probably not so familiar with the work of Cunningham, in India, and of Miquel, in Paris.

The first named gentleman, a surgeon in H. M. Indian Medical Service, was detailed to study the organisms found in the atmosphere in the vicinity of Calcutta, in 1872, with reference

to their relation, if any, to the prevalence of cholera, diarrhœa, dysentery, etc. The following are his conclusions:

"Distinct infusorial animalculæ and their germs or ova, are almost entirely absent from atmospheric dust."

"Distinct bacteria can hardly ever be detected among the constituents of atmospheric dust, but fine molecules of uncertain nature are almost always present in abundance. They frequently appear in specimens of rain water collected with all precautions to secure purity, and appear in many cases to arise from mycelium developed from atmospheric spores."

"Distinct bacteria are frequently found amongst the particles deposited from the moist air of sewers."

"The addition of dry dust, which has been exposed to tropical heat, to putrescible fluids, is followed by a rapid development of fungi and bacteria, although recognizable specimens of the latter are very rarely to be found in it while dry."

"Spores and other vegetable cells are constantly present in atmospheric dust and usually occur in considerable numbers."

"No connection can be traced between the numbers of bacteria, spores, etc., present in the atmosphere, and the occurrence of diarrhœa, dysentery, cholera, ague or dengue; nor between the presence or abundance of any special form or forms of cells and the prevalence of any of these diseases."

"Although these observations may not appear to encourage the hope of success in discovering the presence of atmospheric particles connected with the origin of disease, it must be remembered that they refer only to bodies distinguishable from one another *whilst in the air*, the possibility remaining that many of the finer molecules present in it are really of different natures, and yet may be distinguished from one another by their actions or developments."

"Many interesting questions are suggested in connection with the fact of the presence of such considerable numbers of living cells in the air. What becomes of them when they are drawn into the respiratory cavities of animals? Is their vitality destroyed, and if so, how are they got rid of? Are they ever capable of undergoing any development within the organism, and do they exert any prejudicial influence on the

recipient? These and similar questions can only be answered by means of patient and extended experiment, but even such imperfect and superficial observations as the present will, I trust, serve a useful purpose in clearing away a few of the preliminary obstacles from the path of investigation."

These conclusions of Cunningham's correspond in the main with my own, drawn from observations made in Havana and in this city; and his final remarks are entirely in conformity with my views.

Miquel, the chief of the micrographic service in the observatory of Montsouri, Paris, has recently published a full account of his investigations in this direction, which are still being actively prosecuted.

He says: "So long as it is not possible to cultivate in a state of purity, and to inoculate living beings with these productions so diverse, designated under the general terms *bacteria* and *vibrios*, the questions of public hygiene attached to the knowledge of these lowest beings will not have made a decisive step. It is here that the processes of M. Pasteur find their most rational application. * * Our regular researches upon the air of the south of Paris in the interior of the park of Montsouris are only preliminary to a more extended labor concerning the hygiene of Paris. It is certain that those who without previous researches have ventured to study germs held in suspension in special atmospheres, have failed in the indispensable elements to a healthy criticism of the localities submitted to their investigations. They have exposed themselves, as has already happened, to see in some inoffensive cells, some morbid ferments, while these same cells abounded in healthy localities and were found in the nasal and pharyngial mucous of persons in the best of health. Then, before seeking in confined air the cause of epidemic maladies it is necessary to know first, perfectly, the microbes which free air contains in the normal state, and to know in what proportion these are found in infected localities. Then only will it be possible to approach these grave questions with some chance of success."

This, gentlemen, is the main object of my present visit to

New Orleans. Deeply impressed by my investigations in Havana, with the importance of special training and familiarity with the common organisms found every where suspended in the atmosphere, as a necessary preparation for the study of an infected atmosphere, I am here for the purpose of studying, during the absence of any epidemic disease, the organisms present in the atmosphere of this city.

Listen, if you please, to a brief synopsis of the microbes found by Miquel in the air of Paris: "Fibrous and cellular debris, epidermic pellicles, spiracles of tracheæ, hairs of plants, pollen, grains of starch, spores of moulds, spores of lichens and of mosses, and of all the cryptograms which give by dehiscence microscopic fructifications, the green spored algæ of the genera chlorococcum, protococcus, palmella. Vibrios are always found in the air in the state of germs, visible by powerful lenses, when colored by iodine. * * * But besides these constant elements there are others which are either more variable or more difficult to seize, of which the nature and the properties are unknown to us. Some months of observation are insufficient to their general study. * * * It has always seemed to us that this examination ought to proceed and accompany the delicate researches upon the microbes infinitely smaller, of which the redoubtable role ought principally to attract our attention. * * If the monographs of these inferior beings had been made, if their physiological functions had been established, perhaps it might be possible to discover, mixed with the bacteria, *des vibrions nocifs.* * * The study of the *vibrioniens* has scarcely commenced; it is of importance to science and to hygiene that it be continued and pushed with activity."

The sentence last quoted will, I doubt not, meet your approval, and that these researches, so important to science and hygiene, should be pushed with activity by Americans as well as by Englishmen and Frenchmen, is a proposition which you will also readily agree to. I therefore anticipate your professional and patriotic interest in the work in which I am engaged under the auspices of the National Board of Health,

and if necessary, your active support of this central Health Board, which, controlled by advanced and liberal ideas, promises to do so much for medical, and especially for sanitary science.

## Nitrate of Silver in Erosion of the Teeth.

By GEO. J. FRIEDRICHS, D. D. S.

NEW ORLEANS.

Every physician ought to be congnizanant of the fact, that the timely application of this agent in the incipiency of this disease, will not only save pain and annoyance to their patients, but in the end be the means of preserving these organs, for in many instances, when the teeth are breaking down in Common with the general system, and this remedy is not applied—before the patient is perhaps able to call in the services of a dental surgeon—the disease may have progressed to such an exteut that they are beyond redemption. This lesion is generally seen and incidentally developed in connection with an anæmic and depraved condition of the system, and the remedies employed to correct this condition, are the accredited agents of being the cause of the loss of these precious jewels; for how often have we not heard the remark: "that it is the acid or iron that I am taking that are causing my teeth to decay." Erosion of the teeth has been divided by writers into congenital and accidental;—the former occurring previous to eruption, the latter at any subsequent period of life. I shall, however, confine my remarks in this paper to the accidental occurence of this disease: this being a species of carries, characterized by gradual decomposition, first of the enamel and afterwards of the subjacent dentinal tissue of a tooth. Erosion, properly speaking, confines itself to the enamel, and it generally attacks a number of teeth at the same time, usually developing itself on their surfaces near the margin of the gums. The decomposed part of enamel is white, although I have seen many cases where the disease in its incipiency was primarily of a green color; this condition, however, is more frequently met with

in children than in adults, and as it progresses becomes soft and of a chalky texture, generally very sensitive to thermal changes, and to the touch.

The teeth most liable to be affected by this disease are the superior incisor cuspidati, and biscuspids, and singular to say, some times those only on one side of the mouth. The next most liable are the biscuspids and molars of the inferior maxilla. Occasionally the process begins at a number of points and these enlarging finally coalesce to the destruction not infrequently of all the anterior enamel wall.

### CAUSES.

I do nôt propose here to enter into my opinions, or to theorize on the probable cause or causes of dental erosion. I will however repeat the promulgated opinions of different writers, as to the causes to which this disease has been attributed, to wit: constitutional predisposition to viscidity of the fluids of the mouth, acrid secretion of the mucous membrane, utero-gestation, dyspepsia, altered condition of the system after anæmic and zymotic diseases, electro-chemical action.

### TREATMENT.

We all know that the vital force is ever on the alert, to combat the injury done through the destructive influences of disease. We are also aware that a tooth attacked at a given point by irritating agencies will, step, by step break down and give away before the irritant, unless it is counteracted by the efforts of nature or art—and in the words of Dr. Garretson,* "Not but what such repair is attempted and indeed oftentimes successively accomplished, as witnessed in tubular consolidation where power sufficient exists to perfect the attempt, as seen in the process generally spoken of as vitrification, or eburnification, a mode of natural cure and resistance which no mechanical operation however successfully performed can equal." Now, from the above premises it is self-evident, if we can bring assistance to the inherent vital force of a tooth, this disease erosion of the teeth can be cured. The agent to

*System of Oral Surgery by E. Garretson, M.D., D.D.S.

accomplish this is nitrate of silver, for when applied to an eroded part of a tooth it puts forth its fiat and says, "so far shalt thou go and no further." The salt when brought in contact with the organic matter of the teeth, is decomposed; the oxide of silver is deposited, an insoluble and inert substance, which protects and relieves these portions of the teeth of their hypersensitiveness, antagonizes the action of morbific influences and assists the "vis medicatrix naturæ" to eradicate the disease. The method of using it, is, to chip off of a solid stick of nitrate of silver, a piece about the size of a pin's head (or a crystal of about this size); applying this to the eroded part of the tooth, moving it over the surface until dissolved or decomposed, taking care to keep it from coming in contact with the gum as much as possible, or the gum can be protected by a coating of collodion previous to the application of the escharotic. If after a week's time, the sensitiveness to the touch has not been allayed, the application must be renewed at intervals until this is attained. No danger need be apprehended of its too frequent use, as no injury to the teeth can possibly ensue, for the escharotic operation of lunar caustic is always superficial, it is almost impossible to make it act to a great depth. The salt produces, along with its excitant effect, contraction of the tissue, or, in other words acts as an astringent, and this property also constitutes one of its therapeutic recommendations. You will find that after a few applications the surface of the eroded part will be covered by a thin film of the oxide of silver, which must be allowed to remain until the subjacent layer of enamel becomes solid, and structural consolidation has taken place, after which it can be scraped off, and the surfaces polished, leaving the teeth comparatively uninjured.

In conclusion, knowing that the family physician is the only one that has the opportunity of seeing this disease in its incipiency in ninety-nine cases in a hundred, and that unless arrested at this stage, the loss of tooth structure is irreparable, I felt it a duty incumbent on me to call the attention of the practitioner of medicine to the facts stated above, and which my personal observation in the past ten years have confirmed. If, then, it has become an established rule that a physician will risk his

own life to save that of his patient's, I know, I am not asking too much, when life is not at stake, that in prescribing the proper remedies to restore their patients to health, that due attention will also be given to the preservation of the dental organs.

## Surgical Notes.

By A. S. GATES, M. D., Franklin, La.

### OBLIQUE INGUINAL HERNIA IN FEMALE — GUNSHOT WOUND OF SHOULDER JOINT.

(Read before the Attakapas Medical Association, March 4th, 1880.)

GENTLEMEN—If I trespass somewhat upon your time and patience to-day, the interest of the two cases herewith reported to your honorable body, will I hope, plead some excuse for any want in polish and elegance of the report itself. The one case possesses interest from its rarity, the second for its unexpected favorable result. The first case to which I wish to call your attention is confessedly a rare condition, few authors at our command have made any mention of it, and the few who do notice it give it very meagre mention. It is a case of "oblique inguinal hernia in female." Some authors class it as labial or pudendal hernia, while others, as Gross, calls labial hernia, that condition in which the tumor, consisting generally of bladder alone, seldom intestine, descends between ramus of ischium and the vaginal wall, making its appearance as a tumor in the labia, of the size variying from a small marble to a pullet's egg.

I will relate to you the history of the case, and so much of its preceding history as I have been able to obtain from husband and friends, and patient herself.

Was called on the 3d day of February, 1880, to see Mrs. H., whose husband said "she had a lump in her side; that it had been there for years, making its appearance occasionally, but as a general rule giving no pain or inconvenience. That on the Sunday previous, 1st of February, she had walked from Cen-

treville to Franklin, five miles, over a muddy, slippery road, that she was carrying on terribly with pain," etc.

When I saw the patient she was seated in a rocking-chair, with knees drawn up and feet resting on seat of chair. She was suffering intense pain, moaning and screaming so as to have the neighbors alarmed and collected around her. Retching and nausea were the prominent symptoms. There had been vomiting before my arrival, whether stercoracious or not, was not able to ascertain. Pulse was quick and thready, temperature normal, though not taken thernometrically, cold, clammy perspiration and symptoms of collapse, features pinched and anxious. After much persuasion, was allowed to make a manual examination of painful part. Found a hard inelastic, pear-shaped tumor, about the size of a hen's egg, distending labia majora of right side, extending along course of inguinal canal, with its apex about the internal abdominal ring, exquisitively sensitive, manipulation provoking screams of pain. Refused chloroform, and insisted on being let alone. I here had a case of oblique inguinal hernia, with all the characteristic symptoms of strangulation. After persuasion, patient consented to be lifted upon the bed; placing head low and knees drawn up to relieve tension of abdominal muscles, I proceeded carefully to attempt reduction by taxis. After half an hour steady compression and manipulation, was gratified to hear that peculiar gurgling sound which is so welcome to the surgeon's ear in reduction of strangulated hernias. The knuckle of intestine was gradually returned into abdominal cavity, and to be certain of my diagnosis in the case, I pushed the index finger of right hand clear up through the inguinal canal with little difficulty, and almost into the internal abdominal ring as my subject was spare and thin. The reduction was completed as I here before remarked, in about half an hour.

A consideration and comparison of the surgical anatomy of these cases in the male and female, is here apropos. The relations of the spermatic cord to the canal, and also of the sound ligaments of uterus, analogues of spermatic cords, are thus defined by Gray, in his work on Descriptive and Surgical

Anatomy: "The inguinal or spermatic canal contains the spermatic cord in the male and the sound ligament in the female. It is bounded in front by integument, superficial fascia and by aponeurosis of external oblique throughout its whole length, and the internal oblique for its outer third, etc. That form of protrusion in which the intestine follows the course of the spermatic cord along the spermatic canal, is called olique inguinal hernia." In his description of the cremaster muscles, considered as one of the coverings of this form of hernia, he says: "No such muscle exists in the female, but an analogous structure is developed in those cases where an obligue inquinal hernia descends beneath the margin of the internal oblique." Erichsen's only mention of oblique inguinal hernia occurring in a female, is that it sometimes occurs as a congenital condition in female children, and is then to be treated in the same way as a corresponding condition in the male. The works of Erichsen and Gross, on surgical interference is also meagre and unsatisfactory, in fact, they leave us to inaugurate our own methods of procedure.

Gross under the head of "Labial Hernia," says that this is a rare form of disease, and describes it as a descent of the bladder between vaginal wall and branch of ischium. It rarely contains intestine, recedes readily under pressure, the tumor varying in size, as before remarked, between a small marble and a pullet's egg.

The hernia is sometimes double in this form of disease, both tumors containing bladder; strangulation or its possibility is not noticed in either one of these authorities on Surgery. In the works of Thomas and Scanzoni on Female Diseases, I am not able to find much information. Thomas asserts that it is of rare occurrence, but that oblique inguinal hernia does occur he is positive. He says, "By some anatomists it is stated that the round ligaments of the uterus end in the mons veneris; but this view is probably incorrect. A more careful dissection traces them through the internal abdominal rings, along the course of the inguinal canals to the labia majora, where they are lost in the dartoid sacs described by Broca, as passing through these folds. The labia majora are unquestionably the

analogues of the scrotum, and the sound ligaments correspond to the spermatic cords. *Down one of these canals, by the side of the sound ligament, a loop of intestine*, and sometimes a portion of the mesentery, an ovary, or even a bladder *may pass, as inguinal hernia occurs in a male.* The fact that this disease is by no means frequent, makes its recognition the more important, for were the practitioner not aware of the *possibility* of its occurrence, the intestine might be wounded under the supposition that the labial enlargement was due to abscess or distention of the vulvo-vaginal glands. The displacement may be produced by violent muscular efforts, or blows or falls, as in the male. *Strangulation* of the intestine, with its characteristic signs, may occur, according to Sir Astley Cooper and Scarpa. The hernia may *usually* be overcome by taxis." Scanzoni in his valuable work on "Diseases of Females," says of this disease or condition: "For the diagnosis of these hernias, we must pay attention to their form, which is round or oval; to the color of the skin, which is normal, when there is no strangulation; they are not generally painful, have little consistency; when they contain a large loop of intestine percussion yields a tympanitic sound." Finally, he adds: "It is also important to know that these tumors are *mostly* reducible, and that they may reappear whenever the patient coughs, sneezes, etc. A. Cooper and Scarpa have observed strangulation of these hernias, still it *always* yields to taxis."

Now, please observe, gentlemen, that of these author's accepted as authority in the subject of diseases of females, neither one asserts positively that there is never need for operative procedure or surgical interference. Thomas says they are *usually reducible.* Scanzoni, that they are *mostly reducible.* When describing it and when quoting or giving Astley Cooper and Scarpa as his authority, he says they are *always reducible* by taxis. If unfortunately it should be a country practitioner's luck to meet with such a case, where by reason of adhesive inflammation or any of those accidents which produce an irreducible hernia in the male, and we must admit that such *might* occur in a female, he deemed surgical interference imperative for the welfare and life of his patient,

what coverings would he seek for as with knife and grooved director in hand he determined upon operating—first integument, superficial fascia, intercolumnar fascia, aponeurotic expansion of internal oblique, analogue of cremaster muscle, transversalis fascia, subserous celular tissue and peritonium. The round ligament being analogous to spermatic cord must be found in its situation by the side of, and a little back and to the inside of peritoneal sac, investing the intestine. What truss is proper for such a case after reduction to prevent repetition of descent and possible strangulation in acts of coughing, sneezing, and the muscular exertion incident to a housewife's daily routine of life, is a question naturally presenting itself to us as country doctors, as of sufficient importance for discussion. Every one has his preference for this or that form of truss for the same hernia in the male, and here I would say a word for the Spilman truss of New Orleans manufacture, which I have recommended to my patient. It is a truss which instead of opening in front and being subject to displacement by motions of the body, opens in the back, a steel spring with curves to fit any pelvis, the pad movable in front, but capable of being fixed by a set screw at any point where pressure is desired. The motion is between the open ends which rest on sacrum. Not wishing, particularly, to advertise Mr. Spilman's trusses, I only call your attention to them as fulfilling the indication in this particular case of "Oblique Ingunial Hernia" in a female.

The second case which I shall make very brief, merely stating facts, is that of Paul F., who was shot on Sunday, January 4, 1880, with a Smith & Wesson improved No. 32 pistol, accidentally. I saw the case in consultation with my confrére Dr. Chas. M. Smith, in the evening of the same, some three or four hous after the accident. The ball had entered the shoulder at the anterior edge of the deltoid muscle,—there was very little hæmorrhage. A No. 8 female catheter used as probe passed readily into the wound and struck denuded bone, evident from roughness and peculiar feel on probing. Grasping the elbow firmly and rotating by means of hand and fore arm, cupitus was distinctly felt and heard, that portion of bone in contact

with probe moving with, but not following motion of lower fragment of humerus, nor did this fragment remain stationary when the head of the bone and upper fragment were held fixed by hands of assistant. Dr. S. and myself concluded from these facts that we had before us a case of communited fracture, with at least three fragments, upper and lower ends of humerous and median fragment struck by probe. The site of fracture being through that portion of the humerous known for purposes of description as the surgical neck.

The ball was not found and we decided that it was wedged between or buried into some of the fragments. We applied anti-septic dressing as near, according to Lister's method, as possible, consisting of layers of gauze saturated with solution of carbolic acid and water, 1 part to 50. With a competent nurse to keep the dressing wet with the solution, we left the case as it was too late to operate that evening, fully convinced that resection of the communited bone would be our only chance, and determined to come the next morning prepared to operate.

Together we visited our patient the next morning, with instruments, etc., all ready, but much to our surprise our our patient presented little or no local, or constitutional disturbance—was cheerful and bright; we therefore concluded to postpone the operation, which sooner or later we had decided would be necessary for the salvation of our patient. The case still progressed favorably on our next visit, no local or constitutional disturbance yet making its appearance, and on the Sunday following, just one week from the date of injury, we applied starch bandage from tips of fingers to the shoulder, rendering the arm perfectly immovable. Cutting fenestrum in bandage over seat of wound for the purpose of inspection and dressing, for which carbolic acid and olive oil was used, one pint to 16, instead of acid and water solution. Two doses of epsom salts were given, but having no effect, bowels were opened with enemata of soap suds, warm water and a little common salt. Morphine was left in doses to be taken *pro re nata*, but he never found it necessary to take more than two doses during the night to make him rest. His

case has gone on favorably, and on the 23d of February our patient called at my office to report himself well, with no deformity.

This case, gentlemen, we report as a remarkable one of conservative surgery.

## Recent Progress in Dermatology.

By GEORGE H. ROHE, M.D., New Orleans.

Dr. Jas. Nevins Hyde, of Chicago, reports a rare and extremly interesting case of what he terms *Molluscum Verrucosum.* The subject of the affection was a stout, otherwise healthy German, 35 years of age, and ten years a resident of this country. The main features of the case are briefly as follows:

Between two and three years ago he began to notice over the left buttock numerous white spots or points, about as large as pin heads, which gradually increased in number, extending first upward over the loin, and then downward upon the inner and outer faces of the thigh, the corresponding surfaces of the other side becoming similarly involved. After continuing about a year, these lesions disappeared leaving a reddish pigmentation of the skin where they had existed. Three months afterward the affection reappeared in the same localities first invaded, spreading at first upward, then downward as in the first instance. When Prof. Hyde first examined the patient, the eruption occupied the trunk, thighs, arms and legs to the level of the boot-tops. The head and face, palms of the hands, the feet, and the legs below the level of the boot-tops were exempt. A few papules were noticed on the backs of the hands. The genital organs were not involved. The eruption was tolerably symmetrical. The papules were not numerous on the gluteal regions

The papules varied in size from a pin-head to a split-pea with a smooth, globoid surface, neither umbilicated, flattened or acuminate. Neither scale, scab or other pathological product was discoverable on them. There was no itching, burning or pain connected with the eruption; neither was there

any infiltration, œdema or inflammatory congestion. The contents of the papules, of which a number were opened, was in each case—so far as discoverable by microscopic examination—healthy blood. There was no trace of gland outlet, hair-follicle or other depression on the summit of any of the papules.

This eruption attained its greatest development during the summer of 1878. By January, 1879, nearly all the lesions had disappeared, to recur again to a moderate extent in April, the same year; but on the 12th of July, when another examination was undertaken, all of the lesions had vanished with the exception of the purplish stains of the surface, which had been the seat of the eruption in the spring.

The patient received no treatment whatever; there being no subjective symptoms calling for medication. The only other peculiarity of the patient was a marked development of the perspiratory function.

The diagnosis of this case presented so much difficulty, that Dr. Hyde—himself one of the foremost dermatologists in the country—consulted with a number of gentlemen prominent in this specialty, both in this country and abroad, and finally concluded to give it the name at the head of this article, which was suggested by Prof. Kaposi, of Vienna, the associate of Hebra, in the Vienna University.

This diagnosis is merely a provisional one, and the problem of the true pathological character of the eruption remains for further clinical and microscopical investigation. It is to be hoped that Prof. Hyde will keep this case under notice, and report upon it further, if the eruption re-appears during the coming summer.

The following are the cautious conclusions of the author of this exceedingly interesting paper:—"1. The case here described is one exhibiting certain rare and peculiar features, and cannot, therefore, be made to serve as a basis for generalization. It is merely a contribution to the literature of the subject. 2. Considering it, nevertheless, in connection with certain other cases, * * * it would seem to be reasonable to admit that there is a variety of molluscum whose characteristics differ in a marked degree from those first observed by

Bateman, and since studied by later investigators. * * * 3. To the objection possibly brought against the conclusion last stated, that the lesions in question are merely incomplete and undeveloped forms of molluscum bodies, it may be responded that in the case here described there were several recurrences of the disease, none influenced by either internal or external treatment, each accompanied by an abundant and copious development of the eruption under circumstances particularly favorable to the growth of typical mollusca. 4. The term, *molluscum verrucosum*, proposed by Kaposi, properly designates the clinical features of the lesions to which the name has been limited in this sketch, and, in any view, is useful in distinguishing all the wart-like varieties of molluscum sebaceum from those typical lesions to which the title of contagiosum was formerly applied. 5. As between those authors who hold that even the typical or wart-like forms of molluscum originate in disorders of the sebaceous glands, and the authors who oppose this view, the case here described would point to an origin from the rete bodies by proliferation, rather than to a disorder originating primarily in the sebaceous glands."—*Edinburgh Medical Journal*, February, 1880. Reprint.

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### A Case of Lymphangioma Cutis Multiplex.

Pospelow reports a case of this extremely rare disease of the skin,—the second on record,—in the last number of the *Viertel Jahresschrift f. Dermatologie u. Syphilis*, No. 4, 1879.

The patient was a peasant woman, unmarried, age 23, suffering from papillomatous growths on the vulva, of five months' standing, for the relief of which she had applied to the hospital. Aside from the above mentioned affection and an insignificant gastric catarrh, the patient was in good health, with the exception of the pathological condition now to be described.

The integument was of a light yellowish color. Under the left breast the pigmentation was dark brown, resembling the ordinary chloasma. The mammæ were very slightly developed. Between the left breast and the median line was situated an oval tumor of the size of a pigeon's egg. The skin over the

swelling was of a light rosy violet color, thin, and could not be raised in a fold between the fingers. Upon closer examination it could be seen that the tumor was made up of a number of smaller nodules, a little larger than a millet seed. The skin over the tumors was smooth, rosy and the epidermic covering apparently normal. Similar tumors, of smaller size were observed on various parts of the patient's body. They varied in size from a millet seed to a hazelnut. The smallest were on the face and neck; the largest on the abdomen. The palms of the hands and soles of the feet were free. The distribution of the growths was unsymmetrical.

The shape of the swellings was generally oval. Pressure from side to side—between the fingers—gave the sensation of a tolerably compact nodule; pressure from above, however, caused the tumors to disappear. When the finger was removed the swellings returned.

By lateral illumination, the tumors were translucent, and appeared filled with fluid. Cutting into the tumor revealed a pearl colored jelly-like mass. A small quantity of a turbid fluid exuded from the surface of the cut; but the gelatinous mass did not flow out. The bleeding from the incision was very slight.

The tumor on the left breast was said by the patient's mother to be congenital; the remaining tumors and tubercles had formed since, but the time of their appearance was not known.

The diagnosis of lymphangioma cutis was based on the resemblance of the case to the one recorded by Kaposi (*Hebra and Kaposi: Hautkrankheiten:* vol. 2, p. 282, and *Hebra; Atlas*, etc., 1876). Microscopic examinations of excised tumors made by Kaposi, Neumann and Auspitz, confirmed the diagnosis. Both cases are females.

The patient remains in the hospital (in Moscow) under observation. The number of small tubercles has increased of late. No treatment has been given. A fine chromo lithograph, and a wood cut of the microscopic characters, accompany the article.

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## The use of Water in Skin Diseases.

Among the most practical of recent articles on dermal therapeutics is a paper by Dr. L. D. Bulkley, of New York, on "*The*

*use of water in the treatment of Diseases of the Skin.*" After some judicious remarks upon the use of baths in health, Dr. Bulkley goes on to treat of the application of water to the skin in a state of disease. Some of his statements are of so much practical value as to justify quotation at some length. Thus instead of advising the indiscriminate employment of baths in skin affections, he says:

"But ordinary warm water baths cannot always be advised with impunity in all diseases of the skin; acute eczema, or even more sub-acute, exuding forms of this disease will be found to be aggravated by the contact of simple water. Urticaria will also be rather irritated, as will indeed most of the inflammatory affections of the skin. * * * Sea-bathing is of service in psoriasis, and warm baths of sea-water have been followed, in my experience, with very beneficial results in this disease. * * * But sea-bathing is decidedly harmful in most cases of eczema. * * * I am very cautious about allowing eczema patients either to bathe in the sea, or to spend much time at the sea-shore. * * * Sea voyages generally act unfavorrably in acne."

In regard to the too frequent ablutions in exudative diseases, Dr. Bulkley also has some very sensible words. Upon this point he says: "It is a most common practice to wash eczema, and especially do we see the eczema of children washed diligently, often several times a day, the mothers saying they find it 'impossible to keep it clean.' Now, in my opinion, an eczematous surface should be washed very seldom. Nature seeks to make a protective covering with the exudate; this is continually removed by washing, and the cure most certainly retarded. * * *"

In eczemas in adults, of course the same is true, and a similar caution applicable. In chronic cases, however, where there is much thickening of the skin, the frequent and prolonged application of water is indicated, and is often of the greatest service. Hot water applied to the anus, vulva or scrotum, in eczema or pruritus of those parts, is often more effective than any other application. This is also useful in the chronic eczema of the palms of the hands which is so difficult of cure. This Dr.

Bulkley says, "will sometimes almost seem to melt away under the daily soaking of the palms on the surface of a basin of scalding hot water, followed by diachylon or other ointment. Eczema of the ends of the fingers and of the nails sometimes yield to this after all other means have failed."

(As it is doubtful whether the diachylon ointment referred to by Dr. Bulkley, can be readily obtained here, the following formula is given as an easily procured substitute:

Take of simple lead plaster and cosmoline (or vaseline) equal parts, melt together with the aid of gentle heat and stir while cooling. This makes one of the most elegant preparations that can be used in skin affections. It is useful in most cases, and rarely is a case met with, where it proves too irritating.)

In psoriasis and acute general eczema, the wet pack may be resorted to with advantage. The Russian and Turkish baths do not command Dr. Bulkley's commendation to any very great degree. Water made alkaline by the addition of four ounces of carbonate of potassa, two of carbonate of soda and one of borax, with a quarter or half a pound of starch to a thirty-gallon bath, is recommended in sub-acute eczema and urticaria. This is soothing to most skins and will frequently give relief to the intense itching that accompanies these affections.—*Chicago Med. Jour. and Exam.*, January, 1880. Reprint.

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## Therapeutic Notes.

Dr. M. Charlouis, of Sumatra, reports (*Viertel Jahresschrift fuer Dermatologie u. Syphilis*, No. 4, 1879) two cases of syphilitic serpiginious ulceration of the foot, treated after a method somewhat novel. After failure to produce improvement with large doses of iodide of potassium internally, and mercurial ointment locally, with occasional cauterizations with lunar caustic, the following treatment was adopted: The ulcers were penciled with tincture of iodine, and directly afterwards covered with a layer of mercurial ointment. A sensation of heat in the part followed, lasting however, only a short time. Within a week the ulcers healed in both cases. The author thinks the rapid and favorable result due to iodide of mercury

forming at the point of application and acting on the tissues in its nascent state.

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How to cover the odor of iodoform so as to make it more bearable has been a troublesome problem in practice. Neither tannic acid nor ether succeed well, though both have been recommended for that purpose. Linderman reports that two parts of Peruvian balsam to one part of iodoform covers the smell completely. A convenient preparation is:

| | |
|---|---|
| Iodoformi, | pt. 1, |
| Balsam, Peruv. | pt. 2, |
| Vaseline, | pt. 8. M. |

A fluid preparation may be made by mixing 1 pt. iodoform, 3 pts. Peruvian balsam and 12 pts. alcohol or glycerine.

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# Current Medical Literature.

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## EXCERPTA FROM DR CARL HEINEMANN'S "CONTRIBUTIONS TO THE KNOWLEDGE OF YELLOW FEVER (VOMITO OF THE NATIVES) ON THE EASTERN COAST OF MEXICO.

Translated from the German, by Dr. T. S. Darney, for the Yellow Fever Commission of the National Board of Health

Since my last communication on Yellow Fever more than six years have passed, during which I have had ample opportunities for collecting new data, especially concerning the epidemics of 1875, 1877 and 1878, which were of unheard severity. I would fain have postponed the publication of this work until some conclusions had been drawn from microscopic and chemical investigations, but the increasing significance of Yellow Fever to the Western Hemisphere, especially to the United States; the growing danger of frequent importation to European harbors, leads me to believe that ever so small a contribution as this to the knowledge of this pestilence may be of some interest.

"Dr. Heinemann writes from Vera Cruz, where he has been for 12 years. At what points on the eastern coast of Mexico, is yellow fever endemic? Answering this question necessitates first, a comparative examination of all the larger and smaller harbors and districts on the coast; then whether the disease be always present at all seasons of the year; whether

it occurs sporadically or in more or less severe epidemics; or whether it only occurs periodically from special causes.

In the first instance foreigners alone will suffer; in the second neither foreigners nor natives will be spared. The immunity of natives, though not entire as we will see, must henceforth be regarded as one of the best criteria for determining whether the pestilence be of endemic or epidemic character. Since some places where many foreigners trade without first having come in contact with yellow fever places, are not directly on our coast, I state positively that all places on the eastern coast of Mexico in which yellow fever prevails in an endemic form are in constant communication with recognized hot-beds of the disease. Taking up the places on the east coast we will commence with Matamoras. The German Consul gave me some information concerning the three epidemics here in 1858, 1863, 1867.

Tampico de Tamaulipas, on the left bank of the Panuco, affords much interest as it is a new town. Before the building of Tampico, the foreign commerce was all concentrated at Altamira, a village of 5000 inhabitants, seven miles up stream. Here the disease occurred for the first time in October, 1821, after the arrival of a steamer from Havana.

More than 1500 people, foreigners and natives alike, died.

In 1823, Santa Anna ordered the building of Tampico, under the name of Santa Anna de Tamaulipas. Most of the citizens of Altamira at once moved to the new town. Yellow fever appeared in Tampico in 1843 for the first time, twenty years after its foundation, by means of a body of troops from Vera Cruz. The epidemics of 1847 and 1848 are due to the same cause. I can obtain no particulars of the epidemic of 1853. The disease was crried in 1863 and 1864 by French troops from Vera Cruz. Both of these latter epidemics were endemic in character, for both Fuzier and Roman de la Torre, state the natives enjoyed immunity from the disease.

This proves conclusively that yellow fever may assume for years an epidemic character but can also become endemic, provided the essential conditions for naturalization be found.

Dr. Hegewisch in 1877 treated in a military hospital an entire company of soldiers, born in Tampico, who had lost their immunity by prolonged absence.

Tuxpan, 6000 inhabitants, has been the theatre of many epidemics. The town remained free from yellow fever from 1838, up to the last European intervention. Juarez during his term, ordered the harbor of Vera Cruz to be closed, consequently all the ships then lying in the roads and on their way, were ordered to Tuxpan.

Then, in 1863, a frightful epidemic occurred, which extended far and wide in the interior. None were spared; aboriginees, natives, resident foreigners and foreign seamen, all shared a common lot. Muleteers carried germs to many communities where they carried merchandise.

After the harbor of Vera Cruz was re-opened, the disease disappeared not to return again till the town was occupied by a French garrison. The fever has occurred here twice since then in 1875 and 1878, each time due to soldiers from Vera Cruz.

Nautla, small harbor on the Nautla river, has not suffered from the disease since 1859. Jicaltepec, ten leagues up stream from Nautla, suffered in 1861 and 1868. In 1861, the disease was limited exclusively to the right bank of the river.

Papantla, Indian village of 14,000 inhabitants, almost all of whom are warlike Indians, suffered severely in 1877.

Vera Cruz has been for two hundred years, the chief focus of the disease on the coast. Here the disease is unquestionably endemic. It is never absent, but proves its existence by sporadic cases, or by outbreaks of greater or smaller epidemics. From this town it flows out as from a centre, always following in the wake of commercial highways to other coast towns or going to the interior. Epidemics generally occur here from March to October. Alvarado, a harbor near Vera Cruz, is called the constant home of the disease. The inhabitants enjoy perfect immunity.

Between Alvarado and Campeche are a number of places, important on account of their timber trade. At certain seasons of the year these places are visited by a large number of foreign ships. The principal places are twelve in number, all situated on mouths of rivers, which at certain seasons are full of water and at other seasons are stagnant or dry. With the exception of La Frontera de Tobasco, yellow fever has never been known to occur in any of these places.

Foreign sailors are busy loading timber here under a tropical sun from June to January. They escape yellow fever to fall victims to the murderous endemic swamp fever. All the ships, especially the Norwegian, Swedish, Danish, English and North American and a few French and German, come here in ballast without having touched at any yellow fever focus.

It is therefore conclusive evidence of the incorrectness of the commonly received theory that yellow fever occurs endemically on the east coast of Mexico and only requires a considerable number of unacclimated persons to produce its evolution in spite of San Jean Bautesta de Tabasco having for a number of years established regular communication with Vera Cruz and Frontera by means of steam ships, yellow fever remained unknown there until 1877.

Let us turn for a moment to Minatitlan, celebrated for its export of Mahogany, a village of over 500 regular inhabitants, but with a large floating population, mainly Indians, seeking work when vessels are being loaded. At this season of the year the place is filled with foreigners, sailors and Indians, yet yellow fever has never occurred: but the whole coast from Minatitlan is celebrated for its malignant swamp fevers. No place could be more suitable for the development of malarial diseases, as it

is surrounded by vast swamps, at times filled with water and at other times dried up. Fuzier says the French troops were here decimated by pernicious swamp fever, but not a man suffered from yellow fever. For five months last year, 1878, I had an opportunity of studying a fearful epidemic of this fever. Unfortunately the inhabitants are not accustomed to seek the aid of skilled physicians and on that account I was summoned to see only ten cases, all in the last stages. All were fatal and from two patients I was allowed to abstract small quantities of blood. A microscopical examination was commenced. The blood was moderately consistent, of a pale reddish yellow, of strong gloss; in it were structureless spherical bodies whose size varied from that of the largest white to the smallest red blood corpuscle. At this point of the examination the friends of the patients interfered and cut further examination short.

Laguna is a yellow fever focus. It is on the island of Carmen. The natives are not liable to the fever, but those on the opposite shore are, strange as it may appear. Campeche is a focus of endemic yellow fever. In Merida the fever occurs from time to time in an epidemic form.

Summing up we find: Endemic yellow fever occurs in five places only on the east coast of Mexico: Vera Cruz, Alvarado, Flacotalpam, Laguna and Campeche.

A very important question now is: what influence will the improvement in commerce, due to steamships and railroads, prove on the spread of yellow fever? Observation alone can settle this. Is yellow fever indigenous to Mexican soil or was it brought there? In spite of the darkness enshrouding the origin of this disease, the question can be solved at an early date by means of analogy, if the closer study of the older historical traditions do not throw much light on the subject. The results of historical investigations as we see from Hirsch's compendium are very unsatisfactory.

Hirsch, himself, believes yellow fever to be indigenous, neither to the Antilles nor to Mexico. He maintains that it most probably made its first appearance after the arrival of Europeans, and he supports this view mainly on the incorrectness of the writings handed down to us, in which swamp and typhoid fevers are described rather than yellow fever.

It will be necessary to touch succinctly on the founding of Vera Cruz, which city, according to Clavijero, thrice changed its location; according to Lerdo de Tejada, four times.

The first Vera Cruz was built where Hernando Cortes landed on April 22d, 1519. This site was shortly abandoned for the sake of finding a better climate and anchoring place. Vera Cruz No. 2, was founded in a plain at the foot of Mount Quiahuitzla. This place was abandoned in 1523 or 1524, and La Antigua (old) Vera Cruz, was founded on the right bank of Rio de la Antigua, seven leagues north of the present city of Vera Cruz.

At the close of the sixteenth century, this third settlement was also abandoned on account of the incessant and malignant fevers and the difficulty attending the unloading of ships at that point. In 1599, the Count of Monterey founded the present Vera Cruz, on the original spot which first under Philip III, received the privileges of a city.

According to Padre Alegre, yellow fever was first introduced into Vera Cruz in 1699, by an English slaver. Lerdo de Tejada thinks differently, for he says: "In the first place, yellow fever is not contagious, as we now know, and on that account it cannot be brought here from another place by persons suffering with it. Consequently it is a great error to believe that yellow fever was brought here from abroad." Don Florencio Parez de Comote, M. D., in June, 1803, wrote to the Consul at Vera Cruz: "Vera Cruz has not gotten the germ of the disease from Siam, Africa, the Antilles, Carthagenia, nor from the United States. The disease was developed in the ground at that place; there it always exists, and is developed whenever certain climatic conditions prevail."

Padre Algre states his belief, gleaned from various sources, in the importation of yellow fever from Africa, where, as is well-known, on certain portions of the western coast, north of the equator, it occurs endemically. Dr. Comote, on the other hand, emphasizes that it is the morbid material contained originally in the ground, although a certain chain of conditions is necessary for its evolution.

If we accept the opinion of those who teach that yellow fever is indigenous to Mexico, it seems highly improbable, from what has been written, that it should have been limited, on the arrival of the earlier Spaniards, to the environs of their landing places.

It is extremely improbable that there should be on a coast stretching from 18° to 26° north lat., only five foci of the disease if it were really indigenous; therefore our opinion against this view is considerably strengthened when we reflect that four of these places have been connected the longest and most uninterruptedly with Vera Cruz. Regarding Alvarado, Tlacatalpam, Laguna and Campeche, as foci of the second class, which are continually being contaminated by fever material from the chief focus, Vera Cruz then alone remains. We cannot refrain from believing the yellow fever germ to have been imported here instead of declaring it to be indigenous. As far as Vera Cruz is concerned, we would have to seek the fountain of the disease beyond the Mexican border, most probably in Havana, which, from earliest times, has been in uninterrupted communication with Vera Cruz and in a more limited manner with Campeche and Alvarado.

It can be set down as a rule that yellow fever almost invariably occurs first on the coast or on the banks of navigable

streams. I must mention the influence that railroads have already had, and are likely to have to a greater degree, on the spread of the disease. During the construction of the railroad from Vera Cruz to Paso del Macho, small epidemics repeatedly broke out at all the stations, except La Tejera, the nearest one to Vera Cruz, where the fever has never occurred.

The greatest elevation above the sea level at which yellow fever in this latitude has occurred as an epidemic is at Las Animas, 1008.59 metres above the sea level. Cordova, 105.84 Kilometres from Vera Cruz and 827.08 metres above the sea level, remained from 1864 and 1866, free from the fever until 1876, when a fearful epidemic prevailed there.

The origin of this epidemic is attributed to the son of Dr. Casas, who returned to Cordova after a short visit to Vera Cruz, where he contracted the disease which resulted in his death. The disease spread over the whole city, then to neighboring towns, haciendas and ranches.

In 1877 and 1878, a few sporadic cases occurred. The Mexican coast affords numberless proofs of the absolute independence of yellow fever and the so-called malarial fevers.

For instance, Tampico is almost yearly the theatre of very severe swamp fever epidemics of the most pernicious character.

The entire coast, from Tampico to Vera Cruz, has a bad name on account of the prevalence of swamp fever. On this account San Juan Bantista has been called the grave of Europeans, yet yellow fever was unknown there until 1877. Mexico furnishes many exceptions to the rule that yellow fever is almost invariably a disease peculiar to cities.

All authors lay particular stress on the predominance of yellow fever in harbors having narrow and dirty streets and sailors' drinking saloons.

They say that cleanliness of the streets and other conditions coming within the poll of police ordinances are of great weight in this question.

Vera Cruz will serve me as an illustration. In the first place no sailors' quarters exist here and but few drinking saloons, for sailors are seldom allowed here, never many at a time, and those generally under inspection whilst on shore. In the second place the excessive cleanliness of the streets leaves nothing to be desired in that direction. Strangers are always struck with the cleanliness of Vera Cruz. Filth and bad ventilation are limited to the so-called Patios de Vecindad, which were formerly considered the foci of pests of all kind, except yellow fever, for the houses were occupied almost exclusively by natives. In the frightful epidemic of 1875 the disease began in the best part of the city.

Fuzier in his book expected great results from the introduction of the water of the Jamapa and from the erection of public bath-houses. For twelve (12) years the Jamapa water flowing from many pumps has flushed our gutters and has fur-

nished the houses with an abundance of water. The baths have been supplied and are well attended to. Vera Cruz has also about the best police in the Republic, yet we had fearful epidemics in 1875, 1877 and 1878. It very evidently follows therefore, that filth *per se* has nothing to do with the development of yellow fever and that the statements of many authors in reference to this are exaggerated.

Until very lately a firm belief of the absolute immunity of natives prevailed at Vera Cruz and other foci of yellow fever. Most of the physicians shoved this belief to a point little short of fanaticism. The fearful epidemics of late years have, in Vera Cruz, caused a change of opinion; for so many deaths among the natives occurred from yellow fever that the truth could no longer be denied. Children as well as adults shared a common fate. These cases, however, were regarded as exceptions to a general rule.

Foreigners, even, can remain insusceptible to the disease for a number of years, provided they do not leave the yellow fever country. A few months' absence suffices to destroy an immunity thus acquired. It is a well known fact that natives themselves may loose their immunity through a prolonged absence.

Concerning the nature of the yellow fever poison, our knowledge is not very definite, yet we can explain certain characteristic peculiarities of it. In the first place it is very difficult to eradicate it after it has taken root any where. Its continued existence is possible only within certain degrees of mean temperature. If, however, it be carried to colder latitudes, it will live until the mercury falls to 32° F. Even in the tropics repeated introductions of the poison are necessary to produce an epidemic.

In spite of the steamship communication which Vera Cruz has by means of different lines, with Tampico, Tuxpan, Minatitlan, San Juan Bantista and Progreso, not a single epidemic has been produced through this means. Another highly characteristic feature of yellow fever can be explained only on the ground of the great difficulty of transporting the poison on account of its stability. I mean the formation of larger or smaller foci, observable in every epidemic and especially the occurrence of sporadic cases, when no epidemic prevails. It frequently happens that the nearest surroundings to a fever stricken place escape. In 1866, the French camped immediately in front of Vera Cruz on the plain, and no case occurred in their camp, although a fearful epidemic prevailed in Vera Cruz. All things being considered, we are forced to regard the yellow fever poison as belonging to that lower order of organized beings which live as parasites on higher beings. Highly developed plants require certain conditions of temperature and soil, and a certain amount of warmth and moisture for their development. Limited to certain well-defined groups and often confined to narrow tracts of country, they reach develop-

ment with difficulty and become acclimated with still more difficulty under conditions, to the casual observer, scarcely or not at all changed.

What is true of the higher forms of plant-life is also true of the lower forms, such as algae, lichens and fungi, and especially the latter, which belong exclusively to the group of parasites in the vegetable kingdom. Many fungi are assigned to quite peculiar strata. If we consider the lowest fungi as the bearers of the yellow fever poison, the difficulties of transporting it is easily explained, and if, as it sometimes happen, it be transported, the difficulty of its making a permanent abode, is also explained. The latter can never be effected until the fever germ accidentally comes in contact with that stratum on which it grows luxuriantly and from which it cannot be easily eradicated. On this stratum it can invade the human organism—that it is not propogated in the human organism, and that it is not transmitted from one person to another, numerous facts, in the history of the spreading of the disease, attest. Many facts attest that the human body (organism) is not the bearer or the propagator of the disease.

How is the fact explained, that ships that have no communication with the land remain free from the disease? This is a well known fact at Vera Cruz, according to Hirsch. Ships from Vera Cruz are seldom the bearers of disease.

After they have been cleared, they receive all their supplies through native boatmen; they get ballast from the reefs. In unloading or loading a ship, the native boatmen never come in contact with the ship or crew. Goods are handled entirely by machinery. Ships often lie at Vera Cruz for months with perfect impunity. At Laguna, vessels are loaded with wood by machinery, and the crew and natives never come in contact, yet the wood certainly carries the germ of the disease, for many sailors contract the disease annually from this cause.

We are forced to conclude that the yellow fever poison is transported exclusively by means of wares (merchandise)—in the broadest sense of the term—the numerous epidemics such as that at Altamira, and the one at Tuxpan attest this. There can be no doubt of the germs possessing a greater affinity for certain kinds of wares. In June, 1877, Mr. Bustamente, a merchant at Pichucalco, ordered an assorted lot of goods from the infected town of San Juan Bautista. The goods were brought in skiffs to within one league of Pichucalco, were there put on mules and carried to Mr. Bustamente's house. I failed to learn from my friend, Don Francisco Arguellus, the fate of the boatmen; the muleteers and the occupants of Mr. Bustamente's house all contracted the disease. A wide-spread epidemic then prevailed. In a few days after the arrival of the goods, they were put on the backs of Indians and sent to Cristobal. Most of these Indians died. This single epidemic proves conclusively two things—the transportation of the germs

of the disease in goods, and the transmission of the germs from goods to men. I feel justified in drawing this conclusion—that, it is impossible for the body of an acclimated person, or that of a person suffering from the disease, to transport the germs of the disease. The germs have to be brought by some thing the person brings, either in his clothes or baggage.

The native Campeche troops carried no germs to San Juan Bautista, although they hailed from the hot bed of yellow fever, but Gen. Luz Enriquez' troops who went from Campeche to San Juan, carried the germs of a frightful epidemic.

This is easily explained!

The native Campecheans, according to their custom, carry no baggage and wear but few clothes. The outfit of a Campechean soldier consists of a cotton shirt, a light straw hat, sandals, a musket, a cartridge-box and a *machete*. Gen. Enriquez's troops were equipped in modern European style and they carried also a large amount of baggage and war material.

In regard to the investigations of the blood with the microscope, a few words only are necessary. In nine different cases I failed to find the smallest change from the normal state. In several cases the red blood corpuscles had assumed the well known gooseberry shape; but this was found out to be due not to disease, but to artificial serum I used for the dilution of the blood. The blood of healthy persons diluted with the same serum gave the same result. With new serum I proved that the suspected blood was normal. Lower organisms could not be proved to exist in blood taken from patients in the last stages of the disease. With two exceptions all my experiments were made on blood abstracted from the veins in the hand of patients in the last stages of the disease. But it is by no means proved that such organisms are not present in the earlier stages of the disease. The negative result of these investigations is important since it shows how groundless are the often repeated assertions about the analysis of the blood in yellow fever.

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## THE SANITARY COMMISSIONER OF INDIA ON THE PREVAILING DOCTRINES AS TO THE CAUSES OF CHOLERA IN THEIR RELATION TO SANITARY IMPROVEMENTS.

The Annual Reports of Dr. J. M. Cuningham, the Imperial Sanitay Commissioner of India, have for several years maintained a place in the foremost rank in English and Continental Sanitary literature. As the one just issued—the fourteenth—summarises to a certain extent the doctrines which have been advocated in his previous reports, excerpts from some of the more salient portions of the volume will doubtless be welcome to our readers, especially as the original volumes are available to but a very limited number of them. We shall confine our extracts to sections of the Report dealing with cholera.

Referring to the prevaling view that the course taken by the disease bears a relation to the high roads and railways of the country, Dr. Cuningham states that the cholera-history of the year under review (1877) coincides with previous experience, namely, that "*cholera in India in* these days of railways and steamboats travels no *quicker than it did when there were no railways and no steamboats and hardly any roads.*" The italics are in the original. In no instance could the Sanitary Commissioner satisfy himself that an outbreak of the disease occurred through "importation;" and with regard to the supposition that attendants on the sick are proportionately more liable to be attacked than others living in the same neighborhood, Dr. Cuningham compares the facts with the theory in this wise:—

"According to a prevailing theory, a single case of cholera introduced into a community may communicate the disease to the neighbors or to those who may have ordinary every day communication with the house or person of the sick man, and may thus form a centre of contagion from which an epidemic may arise destructive to thousands. This is the theory. The fact is, that during 1876 and 1877, in this presidency, 422 cases of cholera were treated in 101 hospitals, 1,301 attendants came into immediate, and many of them into almost constant contact with them for days, and yet out of these 1,301 persons, only 18 suffered from any symptoms of cholera. In 85 out of the 101 hospitals concerned none of them suffered at all. The only attacks which can in any way be connected with the 1,301 cases of cholera are 18—16 of cholera and 2 of severe diarrhœa.

"Moreover, in none of the 18 instances in which attendants suffered is there evidence to show that the attack was even probably due to contact with the sick. The whole evidence, as given in the medical officer's reports, is extracted in Appendix D. The details necessary for forming an opinion on the point, it will be seen, are generally wanting, but in several of the cases, from an examination of dates and other circumstances, there is good reason to conclude that the attack was in no way due to attendance; at Banda, for example, the only three cases in the 20th Madras Native Infantry occurred in the same hut, and the second was attacked within five hours of the first. The mere fact that an attendant is attacked is no evidence that he was attacked because he was an attendant. In some reports the two are conjoined in the relation of cause and effect, just as if there could be no question on the subject, as if the fact of being in attendance on a cholera patient ought actually to protect a person from the influences producing the disease in others, and virtually confer on him immunity from attack. This fallacy was pointed out in the Annual Report for 1872, but it is still very frequently repeated.

"In order to prove that cases of cholera among attendants are due to contagion, it must be shown that the attendants suffered in larger proportion than others. In limited out-

breaks the materials may not suffice for any general conclusions, but the facts should be carefully recorded, so that they may be of use when collected as a whole. In the case of any attendant attacked it should be stated how long he has been in attendance; the nature of the attendance; the date of attack; how far this date corresponded with the time when the outbreak was at its height, for this is an important point in the evidence, as tending to show whether the disease should be attributed to causes general to the community, or particular to the individual; how far the results ascribed to attendance may be due to locality, and how far the attendants, as regards locality, movements, etc., were treated differently from others. The period of supposed incubation is important. It will be observed that in one of the instances it was believed to have been ninety-four hours, and in another twenty-one days.

"As has been pointed out in former reports, the freedom of attendants on cholera cases from any special risk is not to be explained by disinfectants, even if the efficacy of disinfectants were undoubted. Every one acquainted with the habits of natives knows how little care they take in their use, and how little value they attach to them. The facts of 1876 and 1877 merely repeat in a definite form what has been long observed in this country. Knowledge of these facts may do much to calm the minds of people in cholera times. At present, many approach a case of cholera with the greatest dread, and attend on it as if they were undertaking the most dangerous duty. If they were to realize that it has been proved by experience that there is absolutely no danger whatever in such attendance, much good would be done not only in quieting needless fears, but also in impressing the important truth that the measures which are best calculated to prevent cholera are not isolation and disenfection of the sick, or the 'stamping out' of the disease, as it is popularly called, but the removal or remedying of all local insanitary conditions."

Following this analysis of the evidence which the material at his command furnished, as to the influence of contagion in disseminating cholera, Dr. Cuningham proceeds to submit the water theory of the origin and promulgation of the disease to trenchant criticism, the nature of which will be best ascertained by again quoting from the Report:—"Comparatively few persons now believe that cholera is propagated by direct contact with previous cases; but it is still held by many that the discharges of the sick contain a specific poison, which acts indirectly through the water supply. This water theory of cholera, as it is called, is interpreted in different senses. By some it is regarded merely as the means of explaining the special violence of certain outbreaks. By others it is held to have a much wider application, and is believed to account for the epidemic diffusion of the disease. In regard to the former view, all that need be said is, that no instance has been adduced in

India to which it seems applicable. Innumerable outbreaks have been connected with the use of impure water; but not only has no specific germ been proved to exist in the water, but the ideas seems opposed to the facts of the case.

"This water theory was discussed at some length in the Report of 1872* It was then pointed out that it seemed irreconcilable, *first*, with the geographical distribution of the disease in this country—with the existence of well marked and extensive tracts of country which escaped, and the existence of other well-marked and extensive tracts which suffered severely, there being no material difference in the water-supply of those exempted as compared with the epidemic areas; *secondly*, with the experience of the same areas in different years, some of which were marked by almost total absence of cholera, and others by violent epidemics, there being no material difference in the water supply of one year as compared with another; *thirdly*, with the history of individual stations, some of which suffer frequently severely from cholera, while others, where the water is just as liable to contamination, generally escape, or, if they do suffer, suffer to a trifling extent; *fourthly*, with the experience of bodies of men moving into camp on account of cholera, and using an entirely different water from that which had been in use when the disease attacked them in cantonments, and yet with the change there was no abatement of the disease, even when there had been ample time for all effects derived from the cantonment water to disappear; *fifthly*, with the almost simultaneous appearance of the disease among various bodies of men in the same place, but drinking water drawn from many different sources; *sixthly*, with the general similarity in the rise and fall and disappearance of the disease among these different bodies of men; *seventhly*, with the fact that the pollution of the water supply is least likely to occur at the commencement of an outbreak when the cases are fewest, and that the outbreak begins to decline just when the cases are most numerous, and the risks of pollution greatest; *eighthly*, with the general character of different epidemics, some of which are distinguished by great force, not only in the extent of country which they cover, but also in the severity with which they affect the individual places attacked; in one epidemic the different sections of the community, such as the various bodies of men in a cantonment, all suffer much, in another they all suffer comparatively little, the sources of water supply being numerous and of the same character in both epidemics. It seemed hardly possible that the virulence of the supposed poison could vary in different years, or that the quantity could have been so apportioned to the different sources as to produce such results.

"The experience of the years since 1872 has fully confirmed these views. The history of the non-epidemic year 1874, as compared with the epidemic year 1875, is particularly striking.

*Pp. 20 to 25.

In Oudh, for example, in 1874, there were only 68 deaths from cholera, in 1875 there were 23,321; in the Punjab 78 in 1874, 6,246 in 1875; in the Central Provinces 14 in 1874, and 14,643 in 1875; in Berar 2 in 1874, and 22,465 in 1875; and so on with other provinces, as may be seen in the table given in the first paragraph of this section. According to this theory, in 1875 the water was generally polluted with cholera discharges; in 1874 it was not. In other words, a cholera epidemic over an area of many thousands of square miles was dependent on a series of accidents occurring in neighboring districts about the same time, while in 1874 these accidents were as rare as they had been frequent in 1875. The enormous differences between these two years are not to be explained by mere accident. Even if it had been shown beyond all manner of doubt that cholera is due to a specific poison, and that this poison resides in the evacuations, it would require very strong proof before the accidental pollution of the water supply over enormous areas could be accepted as an explanation of an epidemic year; for even in a non-epidemic year there is no want of cholera cases amply sufficient to contaminate the water. But as the very existence of the cholera germ has itself still to be established, as well as the opinion that it resides in the discharges, not only is the chain of argument imperfect, but every important link in it seems to be wanting.

"The question receives, perhaps, even more definite and striking illustration from the statistics of villages attacked in 1876 and 1877, as given in Appendix B, especially if they be taken in conjunction with those of 1875. The variation in the figures for these years is often very remarkable, as may be seen from the following examples, which might be multiplied so as to include very many districts:—

| District. | Number of Villages in District. | Number of Villages attacked and Number of Deaths Registered from Cholera. | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1875. | | 1876. | | 1877. | |
| | | Villages | Deaths | Villages | Deaths | Villages | Deaths |
| Ranchee | 7,464 | 170 | 1,472 | 431 | 3,885 | 15 | 52 |
| Chybassa | 3,179 | 108 | 172 | 62 | 143 | 16 | 33 |
| Allahabad | 3,183 | * | 1,383 | 483 | 19,85 | 5 | 253 |
| Unao | 1,682 | 460 | 1,605 | * | 1,428 | 3 | 4 |
| Hardui | 1,980 | 365 | 2,973 | * | 32 | 2 | 5 |
| Bareilly | 3,082 | * | 730 | 304 | 3,111 | 10 | 33 |
| Lahore | 1,710 | 28 | 288 | 130 | 722 | 4 | 5 |
| Rawalpindi | 1,717 | 1 | 1 | 142 | 626 | 1 | 1 |
| Sangor | 1,873 | 3 | 20 | 213 | 2,975 | 65 | 344 |
| Narsinghpur | 971 | 19 | 93 | 289 | 4,192 | 7 | 28 |
| Akola | 1,108 | 708 | 7,847 | 38 | 233 | 62 | 394 |

* No Information.

"Villages vary much in size and in means of water supply. Often there are many wells; in other cases the people depend on a stream. It is very much understating the case to take one source of water supply for each; but even on this most inadequate basis of calculation it would follow, according to the water theory, that while in Ranchee, in 1875, 170 sources of supply were polluted by cholera discharges, and 431 in 1876, the number so polluted in 1877 was only 15; that in the neighboring district of Chybassa similar preponderance of such accidents took place in these two first years, and that in the third they were here also simiarly rare. Or, to take Bareilly in 1876, 304 such accidents occurred, but in 1877 there were only 10; and so on with the others.

"Setting aside scientific inquiry altogether, the mere doctrine of chances altogether forbids the acceptance of any such explanation. As regards water drawn from streams, there is in addition another great fact which seems as fatal to the water theory as the great fact already stated is fatal to the theory of human intercourse. *Cholera invariably travels, not down, but up the great drainage channels of the country.* There is no such thing on record as an epidemic commencing in the Upper Provinces and working its way, for example, down the valley of the Ganges or the valley of the Indus. The progress is always in exactly the contrary direction.

"The vast importance of pure water can hardly be exaggerated. This has been urged again and again in these Office Reports during the last ten years. The evil of the water theory is, not that it insists on this requisite, but that it does not insist on it on a sufficiently wide and logical basis. As regards cholera, the only danger in the water-supply, according to this theory, is the danger of its containing cholera discharges. Other impurities may exist in abundance, but without the supposed germ there can be no outbreak. But this view of the case is insufficient, especially as it is based on purely theoretical considerations. The only sound sanitary principle in regard to water is, that it must be free not only from cholera discharges, but from every form of impurity. Pure water is a most important preservative of health, not only against cholera, but against all diseases. On this point the following remarks from Dr. Payne's *Annual Health Report of Calcutta* for 1877 may be quoted with advantage:

'The doctrine known as the *water theory* did not hold good, for it demanded a germ from a cholera-stricken person to produce the change; and the whole history of the season was opposed to such specific origin. It is necessary also to anticipate objection by pointing out that there were probably other media besides foul water, wherein the poison might be created, that disease often appeared where foul water could not be found, and foul water frequently failed to cause immediate disease. All these precautions were taken, and they left the main propositions unimpaired, as an argument of commanding force, for leaving no means untried to get rid of filthy water. In my first report I alluded to some facts which had occurred in the native lunatic asylum as strongly suggestive of a close relation between filthy

water and fatal dysentery. The experience of the year 1876, striking as it was in this respect, did not justify a positive conclusion. It was followed in 1877 by events which rendered such a conclusion inevitable. The dysentery which had from the earliest times been the great scourge of the place, and had yielded to no efforts of sanitation, now disappeared. The fatal cases, which had always been numerous in former years, were in 1877 represented by a single death. The surreptitious conveyance of filthy water to the mouth was discovered in the middle of 1876, and prevented. No other changes took place to explain the disappearance of the disease.'

Along with a better water supply it may be mentioned that the lunatics were relieved of the overcrowding from which the asylum had suffered so much in former years.

"The water theory errs in demanding a remedy for only one out of many sanitary defects. But cholera is to be dealt with on the same general principle as all other diseases, and this is, that every sanitary defect must be sought out, and, as far as possible, remedied. The cause of cholera—what governs its distribution, and its relative incidence in different places—is still as inscrutable as when the disease first appeared; but it is well known that when this cause or combination of causes is present, it is favored by filth, overcrowding, and every other condition adverse to health. The practical work to be done is to remedy these conditions.

"Theories of contagion, whether direct or indirect, form no safe basis for State interference in sanitary affairs. The action they involve is either already as well or more fully provided for on sound sanitary principles, as has just been illustrated in the case of cholera and water, or it is altogether impracticable, like quarantine, which has been in former years attended with great discomfort and oppression to the people, and with no good result. Even isolation and disinfection, which are prescribed in hospitals, and can be productive of no harm in them, if pressed on the people, can be productive only of mischief, for such interference worries and annoys them in their domestic relations, it tends to make all sanitary measures unpopular, and it diverts their attention from the only real work to be done—sanitary improvements. Quarantine, isolation, and disinfection have utterly failed to prevent or arrest outbreaks among European troops in cantonments, even when carried out under the most careful superintendence. To ask the people over the enormous area of India to rely on such measures for protection, is to ask them to rely on what has been tried within the limited area and population of a station and found ineffectual. Even if isolation and disinfection had been attended with decided benefit in the case of troops and jails, it would be altogether a mistake to order their adoption by the people at large, for the people have often no means of carrying them out. Any machinery directed to enforce such an order must be most costly, and, in spite of its costliness, must be most inefficient, productive of much social misery, and powerless to effect any good. The removal from the affected locality has proved of signal ser-

vice in the case of troops and prisoners, but this measure also, although founded on the theory of contagion, is one which, however much it may be recommended, can never be ordered by the Government. Practically, then, State legislation in this matter is limited to urging on sanitary improvements apart from all theories. It may be argued that the stoppage of pilgrimages has proved beneficial, and that this can be explained only on the theory of contagion. But no such explanation is needed. The stoppage of pilgrimages in time of cholera means the stoppage of filth at fairs, of overcrowding, of fatigue, exposure, and privation—all most insanitary conditions.

"In the report for 1872 the truth of the general principles here advocated was illustrated by the marked diminution of cholera in the Madras jails since they had been placed in a better sanitary condition; a similar illustration may now be given for Bengal. In his report, as has been already mentioned in Section IV., Dr. Bryden has tabulated most complete statistics of the jails of each local government and administration in this Presidency since 1859. The result is shown in two nine-year periods, and they are as follows. They have already been tabulated in the section on jails, but this section, which deals with cholera, would be incomplete without them:

| Province | Year. | Cholera mortality per 1000. | Total mortality including Cholera. |
|---|---|---|---|
| Bengal Proper | 1859—67 | 19.40 | 90.30 |
| | 1868—76 | 7.85 | 51.45 |
| Oudh | 1859—67 | 7.40 | 83.50 |
| | 1868—76 | .82 | 21.68 |
| N. W. Provinces | 1859—67 | 7.59 | 72.52 |
| | 1868—76 | 1.45 | 36.34 |
| Central Provinces | 1859—67 | 11.27 | 63.78 |
| | 1868—76 | 2.73 | 38.95 |
| Punjab | 1859—67 | 2.19 | 46.46 |
| | 1868—76 | .82 | 32.94 |
| Total for Bengal | 1859—67 | 10.77 | 73.45 |
| | 1868—76 | 3.28 | 38.68 |

"These figures are very striking. The mortality from cholera has been reduced to a small part of what it was, and this cannot be explained by measures taken against contagion, for—and this is perhaps the most gratifying feature in the case—the marked diminution in cholera has been attended with a marked reduction in other diseases also. The total mortality from all causes in the jails of the Bengal Presidency from 1868—76 was little more than one-half what it had been in the nine years previous. The practical and most important inference is, that the general sanitary measures which reduce other diseases also effect a marked reduction in cholera."

The portion of the section of the Report dealing with cholera is brought to a conclusion with an extract from the recently promulgated Government of India Regulations, which are to be enforced in future on the outbreak of cholera in India. The rules hitherto in force were amended in accordance with the recommendation of a Special Committee, which had been assembled under the orders of Government towards the end of 1876, to report on the whole question of quarantine as a means of protecting cantonments from the disease. The amended rule cited bears the heading—"Officers in Command not to establish Quarantine," and it runs thus:—

"It must be distinctly understood that commanding officers are not authorized to establish or enforce against the public at large, or any section thereof, any quarantine, or any restrictions in the nature of quarantine, as against cholera in particular, which are not equally applicable at all times to the control of vagrant classes of people having no legitimate ground for claiming admission within cantonment limits. The employment of the troops to form cordons round cantonments for such purposes is strictly prohibited, discipline in this, as in other matters, being enforced by the ordinary means placed at the commanding officer's disposal for such purposes, and it is to be carried out without additional expense to the State beyond that authorized by these rules."

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## FISSURED NIPPLES.

Of all the small things which worry a practitioner of medecine, this apparently little ailment has been the bugbear of my professional life. Apparently so insignificant, and yet so painful, so persistent and intractable, that I have often felt that I would give a good, round sum for what I could really call a remedy, and have always wished that I may never see another case of it. Do what we will, the child must suck (children do not "nurse" in Sedalia, they *suck*) or the milk must be drawn with a breast pump, and, in either case the fissure is torn open and bleeds and our case is as bad as ever. I have tried everything—tr. benzoin, argent. nitras, collodion, and have seen my work go down to naught at the hands (or mouth rather) of an infant, only one week old. I found myself with a case of this kind on my hands in the month of August of this year. Two or three times the case was reported to me as cured, and as often an "adverse report" had been sent in the next day. On one of these occasions I walked into my private office, trying to think of something, when my eyes fell on a bottle of "Prof. Callen's Brazilian Gum." It came to me like a revelation. I had bought the stuff to mend a Politzer's bag. It is pure gum in solution (in naphtha, I think), and is of about the consistency of thick mucilage. When exposed to the air the solvent evaporates and leaves the elastic rubber adhering to whatever it has been applied. I knew it would do. I went at once to the patient and applied it with a camel's hair pencil all over the nipple (except the milk ducts) and over the areola around the nipple. It remained on three days, and came off leaving the parts entirely

healed. There were one or two slight fissures afterwards, but the patient applied the remedy without sending for me and had no further trouble. I have tried it in one other case with equal success. I also applied it to a largely abraded surface on a man's face, who had been thrown from a buggy and scraped the side of his face on the ground. The remedy adhered beautifully, excluding the air, and when it came off, rubber, scab and all came together, leaving a perfectly healed surface behind. This preparation is usually kept by dealers in leather supplies.

Mr. Editor: All the above are *successful* cases. "Let the dead bury the dead."

[Cobblers, for mending shoes with what they call the "seamless patch," use a kind of cement, made by dissolving gutta-percha in benzine or bisulphide or carbon. It is found in the "leather and findings" stores, put up in two-oz. bottles, retailing at 15 cents. The odor is disagreeable, but if bisulphide of carbon is the solvent used, it may be deodorized by tinct. iod., ¼ part, or it may be scented with mint or bergamot. Chloroform is also a solvent for gutta-percha. This solution has been used to retain the edges of incised wounds in apposition; also to protect abraded skin against mechanical injury or the absorption of poisons.

The dematologists have of late been very largely using rubber bandages in the treatment of eczema and other skin diseases, and it occurred to us that this solution of gum would be an excellent substitute, and much more convenient. On investigation, we find it has been recommended in the treatment of lepra, psoriasis, small-pox and erysipelas. We believe Dr. King is the first to recommend it for sore nipples.—ED.]—*St Louis Courier of Med.*, December, 1879.

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## RECENT DECISIONS.

The following are notes of decisions by the courts concerning matters of medico-legal interest:

(1.) In the trial of a man indicted for rape,* the complainant testified that the defendant and some others seized her on the street at night and carried her into an alley-way, where he and the others ravished her. There was a verdict of guilty, and the defendant moved for a new trial. The defendant requested the court to charge the jury that, to constitute the crime of rape, it was necessary that the prosecutrix should have manifested the utmost reluctance, and should have made the utmost resistance. The court did not comply with this request, and the refusal to do so was made the ground for asking a new trial. The importance of resistance was held by the supreme court of appeals, before which the motion came, to show two elements in the crime: carnal knowledge by force by one of the

*State [of Connecticut] vs. Shields. The Reporter, 1879, vol. vii. page 140.

parties and non-consent thereto by the other; and the jury must be satisfied of the existence of these two elements in every case, by the resistance of the complainant if she had the use of her faculties and physical powers at the time, and was not prevented by terror or the exhibition of brutal force. So far, resistance by the complainant is important and necessary; but to make the crime hinge on the uttermost exertion the woman were capable of making would be a reproach to the law as well as to common sense. Such a test it would be exceedingly difficult, if not impossible, to apply in a given case. If the failure to make extreme resistance was intentional, in order that the assailant might accomplish his purpose, it would show consent; but without such intent it shows nothing important whatever. A new trial was not granted.

(2.) A man murdered a woman by shooting her; his defence was that he was intoxicated, and thus irresponsible.* The case came before the Nebraska supreme court on exceptions filed by the defendant. The court reaffirmed the principle, now tolerably well established, that "settled insanity, produced by intoxication, affects the responsibility in the same way as insanity produced by any other cause; but insanity immediately produced by intoxication does not destroy responsibility when the patient when sane and responsible made himself voluntarily intoxicated."

In the same case, it was held that the fact that the prisoner was in a drunken state when he committed the homicide does not in itself render the act of shooting the deceased any the less criminal, nor is it available as an excuse.

(3.) A midwife volunteered to cure an attack of ophthalmia in the infant at whose birth she assisted, and whom she was nursing.† She advised the parents that it was unnecessary to call in a physician, as she had successfully treated similar cases. The sight of the child was destroyed. The mother of the child brought an action to recover damages. At the trial there was medical evidence that, if other and more active remedies had been used, loss of sight would not have resulted. The midwife did not pretend to know of these remedies.

The case was carried from the superior to the supreme court on exceptions, the lower tribunal having dismissed the suit with a verdict for the midwife, without giving the case to the jury. The supreme court confirmed this disposition of the action, on the ground that a person who without special qualifications volunteers to attend the sick can at the most be required to exercise the skill and diligence usually bestowed by persons of like qualifications under like circumstances. Under the rule requiring ordinary care, as applied to this case,

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*State [of Nebraska] vs. Schlencher. The Reporter, vol. vii. page 207.

†Higgins vs. McCabe. Supreme Judicial Court of Massachusetts. 125th Massachusetts Reports.

the court saw no evidence of neglect in any degree. [That is to say, the midwife showed no greater skill than she pretended to possess,—a safe harbor for incompetency.]

(4.) The liability of hospitals for the consequences of the acts of their visiting physicians and surgeons on duty has recently been tested anew in a case in New York,* and the principle is reaffirmed that, if such institutions have exercised due diligence in securing skillful and careful medical men to treat their patients, they cannot be held accountable for alleged malpractice on the part of those medical officers.

One of the surgeons of the Manhattan Eye and Ear Hospital, after consultation with both his colleagues, advised and performed an operation for chronic glaucoma. The necessity of an operation was agreed to by the three consultants, and there was no accident during its progress. Two weeks later the patient left the hospital with vision exactly the same as when she entered. In a few days after her discharge, inflammation developed, and she returned to the hospital for treatment. Another operation was advised, and the patient consented to its partial performance. The operation had no permanent beneficial effect, and the woman became blind. She brought a suit against the hospital for fifty thousand dollars for the loss of her sight. The trial took place before the New York supreme court, Judge Lawrence presiding. After a full hearing of the testimony, in which, on the part of the hospital, it was shown among other things that no complaint was made at the time of the alleged injury to the surgeons or to any of the hospital authorities concerning the surgical treatment; that the surgeons were men of preëminent skill in their profession, and had pursued the usual methods of diagnosticating and treating chronic glaucoma,—a disease which almost inevitably ends in blindness,—the judge dismissed the complaint, without giving the case to the jury. This decision in favor of the hospital rested on and reaffirmed the principles set forth in a judgment rendered by the supreme court of Massachusetts in a similar case,† the essential points being that the Manhattan Eye and Ear Hospital was a chairitable institution which, having exercised due care in the selection of its agents, was not liable for any injuries to a patient caused by their negligence; that, in the present instance, there was no proof that there had been any negligence whatever on the part of the surgeons, who were shown to be men of superior skill, and to have exercised their skill with proper caution.—*Boston Med. and Surg. Jour.*, June 27.

## ANTIDOTE FOR CARBOLIC ACID.

Husemann recommended several years ago saccharated lime (a solution of caustic lime in sugar-water) for neutralizing the

*The Medical Record, June 21, 1879, page 600.

†McDonald vs. Mass. Gen. Hospital, 120th Mass. Rep., page 423.

poisonous effect of carbolic acid, while Sanftleben claims to have found an antidote in sulphuric acid, which, according to his statement, enters into a not poisonous combination with carbolic acid. He prescribes the following :

℞ Dilute sulphuric acid - 10 grams.
Muc. of gum arabic, - 200
Simple syrup, - - 300
Mix, and give a tablespoonful every hour.

—*Ztschr. d. Allg. Oest. Apoth. Ver.*, Jan. 10, 1880, p. 10, from *Pharm. Ztschr. f. Russl.*—*American Journal of Pharmacy.*

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SYPHILIS.—A CHILD INFECTED THROUGH THE UTERO-PLACENTAL CIRCULATION.

Mr. ——, a merchant, married, aged twenty-five years, applied for treatment for what he supposed was gonorrhea. I found a well-defined single indurated chancre situated on the glans about three lines from the corona, on the right side near the frenum. The patient stated that some three weeks before the sore appeared he had connection with a courtesan in the city. He declared that this was his first illicit indulgence during two years, and I place confidence in his statement. He declared that his sore could have been contracted only at the time referred to. On making inquiry concerning his wife, I was told that he had had regular connection with her since his return from the city. She herself had discovered nothing wrong up to this time; but on the following day I was allowed to make an examination, and found a newly-developed sore presenting all the characteristics of a regular chancre, which in due time was followed by constitutional syphilis. When she contracted the disease she was between the third and fourth month of pregnancy. Constitutional developments became well marked some time prior to birth, and when born the child was intensely syphilitic. It was thickly covered from head to foot with syphilitic patches. Nodes were apparent on most of the long bones. The child lived but about two weeks.—*N. S. Hudson, M. D. American Practitioner.*

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RECTAL FEEDING IN DISEASE.

CONCLUSIONS.

The principles which this paper seeks to enforce may be formulated as follows:

I.—That rectal alimentation is a valuable agent, nay, even an indispensable factor, oftentimes, in the management of all cases of disability of the upper portions of the digestive tract when, from any cause, stomachal ingestion becomes harmful or impossible.

II.—That stomachal rest, in so far as the entire prohibition of buccal ingestion can make it so, is a condition precedent to success in all the severer maladies for which rectal feeding becomes necessary. There cannot be the slightest doubt in regard to the adequacy of nutritive injections, to sustain life and maintain the nourishment of the body, wholly unassisted by the ordinary methods of ingestion, for a considerable period (from three months to five years), as attested by well-authenticated cases of record.

III.—"That rectal nutrition requires rather an explanation of its *rationale* than a demonstration of its truth."*

IV.—That in a more enlightened understanding of its value and certainty of action on the part of the profession, rectal alimentation and medication will obtain a wider range of therapeutical usefulness than it has heretofore occupied. Limited in the past, speaking generally, to the severer forms of chronic diseases of the stomach and œsophagus, I cannot doubt that they will, in the near future, become of vast service in the management of acute disease when, from any cause, the stomach becomes intractable and rebellious.

*Example.*—In October last I was treating a case of typhoid fever which, by the twenty-first day, became so critical that all hopes of recovery were abandoned by the friends of the patient. The case was rendered particularly desperate by the fact that the stomach now declined to further retain anything—water, food, or medicine. At this juncture, while collapse was threatened, I suspended all attempts at ingestion by the stomach, and gave injections of beef-essence, milk, brandy, ammonia, quinine, etc. This plan was steadily maintained for five days, when buccal ingestion was gradually and cautiously resumed, from which time everything progressed favorably; convalescence was promptly established, and the patient is now quite strong and well. There cannot be the slightest doubt, not only in my own mind, but also in the mind of others who saw the case, that success was due to the timely abandonment of the stomach, and the employment of rectal alimentation and medication.

V.—That the rationale of rectal nutrition is not satisfactorily explained in the absorption of the aliments by the rectum or colon alone; nor by means of the artificial digestion of the food previous to its injection, after the method of Leube; nor by the vicarious secretion of the digestion juices, according to Flint; nor by the attraction downward of the digestive fluids of the stomach and small intestine, until the alimentary mass is met and rectal digestion is accomplished, also an ingenious proposition of Flint. But I am persuaded that the adequacy of rectal feeding, in supplying nutrition and support to the body, can be fully accounted for in the recognition of the retrostaltic

*Campbell, loc. cit.

action of the intestinal tube—the "intestinal inhaustion" of Campbell—whereby the pabulum ascends to the small intestine, meeting there those digestive principles so necessary for its assimilation and chylification, preparatory to its admixture with the blood. Here, also, are found in abundance the lacteal vessels for the absorption of the chylous emulsion, ready to perform their part in the vital constructive process, whereby blood is made for the repair of the wasted and worn-out tissues and for the building of such new ones as are demanded by the economy. Furthermore, that in this manner digestion is as certainly accomplished as though the food came by way of the mouth instead of the rectum.

VI.—That a timely and systematic employment of rectum alimentation and stomachal rest, in cases where the stomach is so disabled as to render the ordinary methods of ingestion harmful or impossible, is demanded alike by reasons scientific and humanitarian; and no person, except the most ignorant or malicious, could for a moment call it starvation. But, on the other hand, rectal alimentation, medication and stimulation can be carried up to the point of affording the greatest amount of nutrition and support, and that wholly unassisted by any other means of ingestion.

VII.—That in many forms of disease, stomachal ingestion is positively harmful, even though *all* food may not be immediately rejected. Such as is retained oftentimes undergoes decomposition, producing thereby fermentation, irritation, and distress, rendering it unfit for the purpose of nutrition; and, finally, the stomach expels the offending contents undigested. In such cases digestion is so disturbed as to render stomachal alimentation positively harmful—nay, even impossible; and its entire prohibition becomes at once a therapeutical factor of the greatest import.

VIII.—And, finally, that food sent upward through a healthy avenue, in good and sufficient quantities, will contribute with vastly greater certainty to the nutrition and support of the body, than when it reaches the absorbents through a diseased and disordered digestive tract, with its juices chemically at fault, and all its functions rendered morbid by pre-existing reflex or organic maladies.—*Wm. Warren Potter, in the Medical Record.*

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## SPEEDY CURE OF NASAL POLYPI.

By S. Caro, M. D., 17 West Ninth Street, New York.

Dear Sir:—The painless method of removing nasal polypi, never before made public by the originator, is an apology for taking a small space of your valuable journal.

Mr. G. M——, æt. 60, ten years ago applied to me for relief from a soft polypus in the left nostril. I proposed evulsion; but not liking the proposition, he left, and I never heard of him until last May, when he returned with another polypus in the

same nostril. I advised evulsion once more; he declined again and desired me to cure him the same way as did Dr. G. Ceccarini the first time (ten years ago). On inquiry, Dr. C. kindly answered: "The medicine which I use for removing nasal polypi is four or five drops of pure acetic acid injected with an hypodermic syringe within the body of the polypus once only, very seldom twice; the polypus generally drops off within three or five days without discomfort or pain. Disinfecting lotion will correct the offensive odor." With this information, on the 12th of August, in presence of my friend Dr. J. L. Little, I injected the polypus with six drops of chemically pure acetic acid, and instantly we saw the discoloration of it from red to white. Business preventing him from returning, I could not observe the daily progress; but when he called on September 2nd, he had only a small portion of it yet adhering to the middle turbinated bone, the other having dropped off the fourth day after the injection; this remaining portion was injected with four drops of the same acid, and on the third day dropped off, leaving his nose clear, without sore or a vestige of it. Neither of the two operations were followed by any unpleasant symptoms, save slight smarting from the pricking by the needle when the acid was injected. The offensive odor arising from the decaying mass was corrected by a weak carbolized wash. The long interval from the destruction of the first, and the appearance of the second—ten years between—precludes the possibility of this last being a portion of the first, but a new one.—*Med. Record—Journal of Materia Medica.*

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SUDDEN DEATH FROM INTRA-UTERINE INJECTION OF WATER.

Dr. Gleason relates a case in which sudden death appeared to have been produced by intra-uterine injection of warm water, used in order to induce criminal abortion. The woman, Mrs. H., was a negress, a domestic servant. At about 11, a. m., on June 8, 1878, being in apparently perfect health, she had gone up to her bedroom, accompanied by a Dr. Gilson, of Boston, she carrying up with her a basin of warm water. In from twenty to thirty minutes he came down hurriedly for brandy. This the servants procured for him, and accompanying him upstairs, found Mrs. H. upon the floor, dead. A tub containing a small quantity of bloody water was seen near. This the doctor directed one of the servants to throw away. Another of the servants had, at a previous visit of the doctor, lent him a common rubber syringe. This was discovered concealed in a bureau near the bed, and when found, was still wet. To the discharge pipe of the syringe a strange nozzle was affixed, which bore evidences of having been filed off, though somewhat roughly, and which was found a few days later to fit quite well a female catheter which the jailer at Plymouth dis-

covered as it dropped from its concealment upon the person of the prisoner at the time of his commitment, June 12th.

The author made an autopsy the same evening. The only external evidence of violence was fresh blood-staining of the underclothing about the genital organs. The cervix was sufficiently dilated to admit easily the index finger and the unruptured membranes could be felt through it. The uterus was of the size usual in the seventh month of pregnancy. The blood following an incision over the thorax was frothy. The heart was empty and healthy throughout; the vessels connected with it were also normal. The lungs were hyperemic, vessels distended, the air-cells filled throughout with bloody serum. On the right side of the uterus, front and back, the membranes were found dissected up from the uterine wall to the extent of some two-thirds to three-fourths of their whole connection with the interior of the uterus. The lining of the uterus, from which the membranes had been detached, was reddened, and scattered over its surface was seen a number of bright, red loose clots of the size of a pea or bean. The placenta was involved in this separation, its right edge, to the depth of two and a half to two and three-fourths cm. around one-third to one-half of its circumference, being detached opening sinuses. No blood was effused as a layer. The fœtus, a female, was 39 cm. in length, and weighed fully 1⅓ kilograms, having a fresh healthy appearance. Experiments with the syringe found showed that air could enter both by a defect in the bulb of the syringe, and between the nozzle and the catheter, when the latter was attached, so that numerous fine bubbles were discharged, when the orifice was placed under water at each compression of the bulb.

The author, with other medical men, concluded that the separation of the membranes and placenta was due to the intra-uterine injection of water; and that sudden death arose from the entrance into the veins of air which had been injected with the water. The story of the prisoner was that he had been treating the woman for suppression of menses and for a uterine leucorrhea, but that he had failed to detect the pregnancy. He stated that on the day of her death he gave her an intra-uterine douche with the catheter and syringe, and at length gave up to Mrs. H. the instrument, which she herself applied, as he walked away from her bed toward the window. While using it, she fell back, and instantly expired. The prisoner was found guilty, and sentenced to six years' imprisonment.—*Medical and Surgical Journal—The Obstetric Gazette.*

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### ON THE TREATMENT OF CHOREA WITH HYPODERMIC INJECTIONS OF ARSENIC.

For the last ten years I have, in obstinate cases of chorea, employed hypodermic injections of Fowler's solution with

marked success. In recent or slight cases they do not appear to be necessary, these yielding readily to the use of arsenic by the stomach or very often getting well of themselves, but in instances of long standing, which are generally classed as incurables, I am quite sure that we have in the means referred to a valuable therapeutic measure which ought not to be disregarded.

In administering arsenic by this method, a few points of manipulation are to be considered, for there is a decided tendency to the causation of cellulitis and consequent abscess, and also of painful cutaneous inflammation.

A point for the injection should be chosen in some part of the body where the skin is loosely attached to the subjacent tissues. The skin near the insertion of the deltoid is not a suitable place for the hypodermic injection of arsenic, however well adapted for injections of other substances. I very soon found out that when inserted there, erythema, or abscess, or both, were the invariable sequences. Moreover, the mere act of injecting arsenic in those situations where the skin is tight and the tissues dense is accompanied with very considerable pain.

The best point is on the front of the forearm about midway between the wrist and the bend of the elbow. Here the skin is loose and can be easily lifted up by the thumb and finger from the tissues below. In the next place the arsenic should be deposited just under the skin in the cellular tissues, and not in the substance of the skin or muscles. Neglect of this point will almost invariably lead to the formation of abscess. The point of the syringe should therefore be just carried through the skin and then for about half an inch parallel to the face of the arm. The injection should then be made slowly, and it is well to lift up the skin over the place where the injection has been made, so as further to facilitate its absorption.

And, lastly, it will not do to inject the undiluted Fowler's solution, for if this provision be not followed, cellulitis, erythema and intense pain will certainly be produced. The dose which it is deemed proper to inject should be diluted with at least an equal quantity of water, or preferably, of glycerine. The latter substance seems to be more readily absorbed and to produce less irritation than water. All these precautions are for the purpose of preventing local troubles. There is certainly a strong disposition on the part of arsenic to produce them. If, however, attention be paid to the rules I have laid down, there will rarely if ever be any local disturbance.

The dose of arsenic administered by hypodermic injection may be very considerably larger than that which the stomach will ordinarily tolerate, and it is just here that the superior advantages of the method are most clearly shown. It is in chronic cases of chorea and certain choreiform affections that large doses of arsenic are especially required, and the effect of such doses in curing the disease is not only generally prompt,

but is unassociated with any toxic phenomena. I have frequently given as high as thirty-five drops of Fowler's solution by hypodermic injection, as an initial dose. It is very certain that the stomach would not tolerate this quantity. Again, I have often carried the amount taken by the stomach to the utmost bounds of prudence—till the eyes were puffed and vomitting was almost incessant, and then have continued the arsenic in larger doses by hypodermic injection with the result of the cessation of all gastric symptoms and the rapid cure of the disorder.

With these introductory remarks I pass to the description of two or three cases in which the beneficial effects of the arsenic administered hypodermically were unquestionable.

In cases of acute chorea a large number of which I have treated with hypodermic injections of arsenic, smaller doses may be given than when administered by the stomach, and they do not require to be so frequently repeated. Thus it often suffices, for the speedy cure of the disease, to give four drops of Fowler's solution hypodermically every alternate day for a week or ten days, and then to increase the dose to five drops for a like period. I have compared the duration of acute chorea as treated by the gastric and hypodermical administration of arsenic, and have ascertained that the period is shortened one-half by the latter method. While admitting that the tendency in such cases is, with hygienic measures, towards a cure, the beneficial effects of the arsenic are none the less evident. I have repeatedly seen the most marked improvement result from a single injection.—*St. Louis Clinical Record.*

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## MISUSE OF THE IRON PREPARATIONS—THEIR EFFECT ON THE DIGESTIVE PROCESS.

In cases of debility, prostration, or loss of appetite, preparations of iron, alone or variously combined with bitter tonics, are seemingly indicated clearly, and are very generally used. But in many cases they do harm, either from their being administered at a wrong time or because they are not tolerated under any form or circumstance. The greatest abuse of iron is where it is given for loss of appetite or difficult digestion, and when it is given within half an hour before eating or within three hours after. We have found entirely to our own satisfaction, both by clinical observation and by experiment, that iron preparations introduced into the stomach while digestion is going on either hinder or arrest the process. Our attention was first called to this by clinical observation. We treated a patient some time since, who had been treated by another physician for slight cystitis with considerable depression of spirits and loss of appetite. The man was, however, quite strong, and not emaciated. He also had a slight feeling of weight after eating. For this he was given 6 gr. doses of cit. ferri. et quiniæ a half

hour before eating. This made the feeling of weight worse. The physician increased the dose to 10 grs., and it was still worse, and the appetite also remained very small, with considerable depression of spirits. Upon taking charge of the case, and finding out what he had been taking, I stopped all tonics and used only slightly anoydine suppositories for the irritable bladder. His appetite immediately improved, and the weight at the epigastrium disappeared. This is only one of many cases where we have found the use of iron preparations to produce indigestion, feeling of fullness at the epigastrium, and even vomiting when given at the wrong time. To find reason for this we tried the effects of iron preparations upon artificial digestion of animal substances.

We took two test tubes, and put in each the same quantity of artificial gastric juice, *i. e.*, a 2 per cent. mixture of hydrochloric acid with pepsin, and then placed in each a few pieces of coagulated albumen. Into one was also placed 31 of elixir of iron and quinia. Both test-tubes were kept at blood heat for ten hours. In four hours the albumen was rapidly disintegrating in the gastric juice alone. At the same time the albumen in the tube containing gastric juice and iron was apparently intact.

In ten hours the albumen in the gastric juice alone was entirely dissolved, while in the other tube it was still intact.

In a number of experiments the same results were arrived at. We may then consider it established that some iron preparations, if not all, when taken into the stomach during digestion, hinder that act, and therefore they should not be given so that they will then be present in the stomach. Whether the secretion of gastric juice is affected by iron preparations or other tonics it will remain for further observation to determine, and thus contribute valuable addition to therapeutics. There are many medicines the effects of which, whether good, bad or nil, depend entirely on the time of administration.

The tendency both on the part of prescribers and the large drug manufacturers is to combine iron with other tonics, so that the markets are flooded with elixirs, syrups, and wines of iron and quinine, iron and strychnia, iron, strychnia and pepsin, and so on *ad infinitum*. The combinations with pepsin are a shameful waste of this valuable medicine, and well calculated to bring it into disrepute. None of the others above mentioned should be used for or in any gastric derangement, except with due regard to time of administration. The most suitable time to give iron is one hour before meals or four hours afterwards. —*Alf. W. Perry, M. D., in Western Lancet.*

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### TRANSMISSION OF HYDROPHOBIA FROM MAN TO RABBITS.

M. Raynaud inoculated a number of rabbits with the saliva and blood of a hydrophobic patient on the day before death.

The inoculations of blood gave negative results; the inoculations of saliva, however, were followed by rabies in a relatively short space of time, at most a few days. M. Raynaud also extirpated the submaxillary glands of two rabid rabbits and inoculated them on two healthy rabbits; the results were equally positive, that is to say, the inoculations were followed in a short time by the symptoms of rabies. No reliable case of the transmission of rabies from man to man has yet been recorded, but M. Raynaud thinks that, after his demonstrations of the possibility of its transmission from man to rabbits, it is fair to conclude that the results would be identical in the case of man if accidentally inoculated.—*Le Progrès Médicale*, Nov. 15, 1879.—*The Medical Record.*

# Editorial Department

## LOUISIANA STATE MEDICAL ASSOCIATION.

The Third Annual Session of this organization was held in this city on March 31st, April 1st and 2d. The meeting was harmonious and instructive, and the delegation from the country quite large, considering the difficulties attending transportation. A number of valuable papers were read, and the annual oration by the Rev. Hugh Miller Thompson, D. D., was a masterly effort. The courteous Recording Secretary, Dr. L. F. Salomon, has furnished us with a transcript of the proceedings, which appear in the JOURNAL. When we consider the failure of former State medical organizations in Louisiana, there is reason for congratulation now, as the earnest efforts of the members precludes any possibility of its dissolution. The Fourth Annual Session will be held in New Orleans, on the last Wednesday in March, 1881.

## LOUISIANA STATE BOARD OF HEALTH.

The combined action of the Governor of the State and the City Council, has reorganized this body, with the following result: President, Dr. Joseph Jones; Secretary, Dr. S. S. Herrick; Drs. F. Loeber, F. Formento, E. T. Shepard and J. C. Beard, and Messrs. I. N. Marks, Robt. Brewster and E. Hernandez, members. Great activity and singleness of purpose is being displayed, and it is probable that greater efforts toward

sanitation will be made this year than ever before. New Orleans will be cleansed and disinfected. The New Orleans Auxiliary Sanitary Association which last year did such important service by employing a force to forward sanitation, has already commenced laying pipes, for the purpose of flushing the street-gutters, and we are glad to state, that this Association and the Board of Health are in harmony, and will work together to keep New Orleans free from disease. The shipping will be carefully watched, and the cleansing of all vessels arriving at this port demanded.

## THE YELLOW FEVER CANARD.

That officious person, whose individuality is cloaked, but whose power is felt, known as "Associated Press Reporter," has made New Orleans the victim of as vile a piece of malignity as was ever perpetrated on a much-abused city, by telegraphing that eleven deaths had occurred here from malignant yellow fever. Indeed, it appeared in the dispatch that the National Board of Health had been "officially" notified of this fact. The excitement over this falsehood was intense, and but for the immediate refutation by the President of the State Board of Health and Dr. Bemiss, member of the National Board of Health, there would have been quite an exodus and the probable establishment of local quarantines. New Orleans has been especially free from malignant disease this spring. Scarlet fever and diphtheria have prevailed to a limited extent, but the cases have usally been very mild, and not a case of yellow fever has made its appearance.

## AN OMISSION.

In our report of the commencement exercises of the University of La., we neglected to state that the valedictory was delivered by Dr. Thos. Hebert, of La. The address, eminently suited for the occasion, was finely delivered and met with frequent applause.

## A CORRECTION.

We have had our attention called to an egregious error occuring in the *Journal*, June, 1879, wherein on page 995 we quote from the Medical Tribune, the statement that: "The half dime token, nickel, weighs a gramme, and is a *metre* (39.369

inches) in diameter." In fact the nickel has a diameter equal to two centimetres and weighs five grammes.

## HYDRATE OF CHLORAL.

Dr. H. H. Kane, of New York city, specially requests members of the profession with any experience whatever in the use of the hydrate of chloral to answer the following questions, and give any information they may possess with reference to the literature of the subject:

1. What is your usual commencing dose?
2. What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours?
3. In what diseases have you used it (by the mouth, rectum, or hypodermatically), and with what results?
4. Have you known it to effect the sight?
5. Have you ever seen cutaneous eruptions produced by it?
6. Have you known it to effect the sexual organs? If so, how?
7. Do you know of any instance where death resulted from or was attributed to its use? If so, please give full particulars as to disease for which given; condition of pulse, pupils, respiration and *temperature;* manner of death; condition of heart, lungs and kidneys; general condition, age, temperament, employment, etc., etc., etc. If an autopsy was held, please state the condition there found.
8. Have you seen any peculiar manifestations from chloral—as tetanus, convulsions, or delirium?
9. Do you know any cases of the chloral-habit? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament, and the present condition of the patient, with reference to the state of body and mind in general, and the various organs and systems in particular?

Physicians are earnestly requested to answer the above questions fully, especially 7 and 9, in order that the resulting statistics may be as valuable as possible.

All communications will be considered strictly confidential, the writer's name not being used when a request to that effect

is made. Address all letters to Dr. H. H. Kane, 191 West 10th Street, New York city.

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ERRATUM.—In the April number of this JOURNAL, page 940, fourth line from bottom, read *Boagui* instead of *Boaqui*.

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## LOUISIANA STATE MEDICAL SOCIETY.

### THIRD ANNUAL MEETING.

*First Day.*—Wednesday, March 31st, 1880.

The Society met in the building of the Medical Department of the University of La., at 12, M., the President, Dr. J. W. Dupree, in the chair.

The meeting was opened with prayer by the Rev. H. M. Thompson, D. D.

The report of the Committee of Arrangements was read and adopted.

The minutes of the last meeting were read and approved.

The President stated that owing to the absence of Dr. Thos. Layton, he had appointed Dr. L. F. Salomon Secretary.

On motion of Dr. W. H. Watkins, the appointment of the Committee on Credentials was postponed.

The report of the Committee on Publication was read, and on motion duly seconded, action thereon was postponed until the report of the Treasurer be heard.

The reading of the reports of the Treasurer and Corresponding Secretary was postponed until the noon session of Thursday.

A communication from the members of the Society of the Parish of Caddo, expressing their inability to attend the session, was read and received.

Dr. J. B. Wilkinson stated that the Parish Society of Plaquemines was desirous of applying for admission to this body, as an affiliating society.

On motion of Dr. S. E. Chaillé said society was admitted.

A motion to reconsider the motion postponing the report of the Corresponding Secretary was adopted. The report was was read and received.

Under a supension of the rules the following gentlemen were elected members by acclamation:

Dr. A. Maguire ..... of St. Mary.
" T. G. Wolf ..... of Iberia.
" L. G. Blanchett ..... of "
" A. S. Gates ..... of St. Mary.
" R. O. Matas ..... of Orleans.
" D. C. Holliday ..... of Orleans.
" Y. R. Lemonier ..... of Orleans.
" T. B. Pugh ..... of Assumption.
" G. M. Brumby ..... of Richland.
" C. T. Hines ..... of Livingston.

A communication from the Attakapas Medical Association, containing a memorial to the legislature, favoring the passage of laws for the prevention of unqualified persons practicing medicine in the State, was read and referred to the Committee on State Medicine.

A communication from the Louisiana Ice Manufacturing Company, inviting the members to visit their works, was read. The invitation was accepted, and Friday, at 9, A. M., was the time fixed for the visit.

There being no further business, the meeting adjourned until 7½ o'clock, P. M.

EVENING SESSION.

The meeting was called to order at 8 o'clock, P. M., Vice President Dr. J. P. Davidson in the chair.

A communication from Dr. Samuel Choppin, First Vice-President of the American Public Health Association, asking for the appointment of a committee to confer with committees from other organizations, for the purpose of making arrangements for the coming meeting of aforesaid body, was read. A motion that the communication be received and a committee be appointed was adopted.

The President, Dr. J. W. Dupree, delivered his annual address.

On motion of Dr. T. G. Richardson, the thanks of the Society were tendered Dr. Dupree, for his able address, and it was ordered published.

Dr. G. M. Sternberg, U. S. Army, and Dr. Reilly, Inspector, National Board of Health, were introduced and received as members by invitation.

Dr. Sternberg read an interesting paper on Microscopy, and entertained the Society with photo-micrographic views, showing the result of his investigations in Havana.

On motion of Dr. Chaillé, the thanks of the Society were tendered Dr. Sternberg, for his very instructive lecture.

The meeting then adjourned until Thursday, April 1st, at 12 M.

*Second Day*—Thursday, April 1st—NOON SESSION.

The meeting was called to order at 12 o'clock, M., the President, Dr. J. W. Dupree, in the chair.

The minutes of the first day's proceedings were read and adopted.

The election of members being in order under a suspension of the rules, the following were elected by acclamation:

Dr. Peter Randolph..... of Point Coupee.
" N. M. Hebert..... of Plaquemines.
" T. Y. Aby..... of Ouachita.
" U. R. Milner..... of Orleans.
" Wm. Kelly..... of Madison.
" J. B. Henderson..... of Orleans.
" N. L. Sigur..... of St. Mary.

Dr. W. H. Watkins, chairman of the committee of arrangements, read his report of programme of proceedings for the day. Report received.

Dr. G. K. Pratt, Treasurer, read his report, which was accepted.

On motion the report of the Publishing Committee was ordered read.

The report was read, whereupon Dr. C. P. Wilkinson moved, that, in view of the fact that excessive expense had been incurred contrary to the authorization of the publishing committee, a committee of three be appointed to adjudicate the bill rendered by the printer. The motion was seconded and carried.

The chair appointed on the committee, Drs. C. P. Wilkinson, Posthell and Lewis.

Dr. J. P. Davidson, chairman of the Auxiliary Committee on State Medicine, read his report which was accepted.

Dr. S. E. Chaillé offered the following resolution:

Resolved, That the Louisiana State Medical Society heartily concurs with the Attakapas Medical Society, in respect to the petition to the General Assembly for the enactment of a law regulating the practice of medicine; it urges greater consideration by, and greater union of the profession as to the tenor of such law as would accomplish the important object in view.

The resolution was adopted.

The reports of Drs. Bickham and Herrick of the Committee on State Medicine, were read and referred to the Publishing Committee.

Dr. G. R. Fox read a paper on the Medical History of the Parish of Plaquemines.

The paper was referred to the Publishing Committee.

Dr. T. G. Richardson read a paper on "Hydrophobia in Louisiana."

Referred to the Publishing Committee.

Dr. G. K. Pratt moved a reconsideration of the communication of Dr. Choppin, read at a previous meeting. Carried.

Dr. S. E. Chaillé moved that the Secretary be instructed to notify Dr. Choppin that this society will take no action in the matter, as it rests entirely with local organizations.

The motion was seconded and carried.

On motion, the order of business was suspended for the election of officers, and, under a suspension of the rules, the following were elected by acclamation:

Dr. C. M. Smith, of St. Mary, President.

VICE-PRESIDENTS:

Dr. D. R. Fox, First Congressional District;
Dr. J. P. Davidson, Second Congressional District;
Dr. P. S. Postell, Third Congressional District;
Dr. A. A. Lyon, Fourth Congressional District;
Dr. G. M. Brumby, Fifth Congressional District;
Dr. O. P. Langworthy, Seventh Congressional District.

Dr. L. F. Salomon was elected Recording Secretary.

Dr. G. K. Pratt offered his resignation as Treasurer.

On motion, the resignation of Dr. Pratt was not accepted.

On motion, the meeting adjourned until 7½, P. M.

EVENING SESSION.

Meeting was called to order at 8, P. M., Dr. J. W. Dupree in the chair.

The President introduced the annual orator, Rev. H. M. Thompson, D. D., who delivered an eloquent address upon the "Curative Value of High Character in the Physician."

On motion of Dr. Chaillé, the thanks of the Society were tendered to Dr. Thompson, for his able, eloquent and instructive address. The meeting then adjourned until Friday, April 2d, at 10½, A. M.

*Third Day*—April 2d, 1880—Day Session.

The meeting was called to order at 11, A. M., the President, Dr. J. W. Dupree, in the chair.

Dr. W. H. Watkins, chairman of the Committee of Arrangements, reported the order of proceedings for the day. Report accepted.

Dr. C. P. Wilkinson, chairman of the committee appointed to adjudicate the bill of the printer for last year's proceedings, made his report recommending that the bill be paid. The report was accepted.

Dr. L. F. Salomon reported ten additional cases of leprosy, since last report. Report accepted and referred to Publishing Committee.

Dr. M. Schuppert read a paper entitled "Morbus Coxarius at the International Medical Congress at Philadelphia, in 1876." The paper was referred to the Publishing Committee.

On motion of Dr. W. G. Austin, the following gentlemen were appointed a committee to make arrangements for the reception of the American Public Health Association at their annual meeting: Drs. W. G. Austin, C. M. Smith, J. P. Wilkinson, R. C. White, C. J. Bickham, D. R. Fox.

Dr. H. R. Day read a paper on "Incised Wound of the Stomach." The paper was referred to the Publishing Committee.

Dr. U. R. Milner read, for the information of the Society, resolutions adopted by the Georgia State Medical Society, opposing the bill now before Congress, conferring certain powers upon the National Board of Health.

Dr. A. W. DeRoaldes read a paper entitled "Contributions to Medical Hydrology." The paper was referred to the Publishing Committee.

Under a suspension of the rules, the place of meeting for next year was fixed at New Orleans, on the last Wednesday in March. Hon. Thos. J. Semmes was elected an honorary member and annual orator for 1881.

The following were elected delegates to the American Medical Association: Drs. Joseph Jones, A. B. Miles, J. P. Davidson, J. D. Hammonds, G. A. B. Hayes, T. J. Woolf, S. M. Bemiss.

A motion by S. L. Henry, providing for the collection of vital statistics, was lost.

On motion, the meeting adjourned until 7½ o'clock, P. M.

### Evening Session.

The meeting was called to order at 8, P. M., the President, Dr. J. W. Dupree, in the chair.

Dr. A. B. Snell read a paper on the Conservative Influence of Disease. The paper was referred to the Publishing Committee.

Dr. Jones read a paper on Fatty Degeneration of the Heart in Fevers. Referred to Publishing Committe.

The report of Dr. C. J. Bickham, on Medical Education, was read and accepted.

The report of Dr. S. S. Herrick, on Public Hygiene, was read and accepted.

Dr. Sampson of Madison, and R. C. McCullogh of Tensas, were elected members.

On motion of Dr. J. P. Davidson, the thanks of this association were conveyed to Hon. T. J. Semmes and Hon. Jas. McConnell of Orleans, Hon. R. L. Luckett of Rapides, and Hon. N. C. Blanchard of Caddo, for their efforts in behalf of State Medicine in the Constitutional Convention of 1879.

The Chair announced the following as the committees on State Medicine:

Dr. S. E. Chaillé, *Chairman.*

Public Hygiene—Drs. Davidson and Herrick.

Medical Education—Dr. Bickham.

Medical Jurisprudence—Drs. Dabney and McCutchon.

Public Institutions—Drs. Miles, Matas, Vance.

The thanks of the Association were voted to the President, Dr. Dupree, and the other officers, for their services to the society during the meeting.

Dr. Dupree, in retiring, introduced its newly elected President, Dr. C. M. Smith, who took his seat.

There being no further business, the Society adjourned to meet in New Orleans on the last Wednesday in March, 1881.

L. F. SALOMON, M. D.

*Recording Secretary.*

## PROCEEDINGS OF THE ATTAKAPAS MEDICAL ASSOCIATION.

### THIRD MEETING.

NEW IBERIA, March 4, 1880.

The Attakapas Medical Association was called to order at 1 o'clock, P. M. Vice-president Dr. George Y. Colgin, in the chair, and a quorum present.

The minutes of the last meeting were read and approved.

Dr. Gates of Franklin and Dr. Minvielle of Jenerette, presented their diplomas, to be referred to the committee on credentials. Dr. Gates presented also the diploma of Dr. C. M. Smith of Franklin, which was, likewise, referred to the committee.

On a motion of Dr. Richardson, duly made, seconded and carried—

The committee on "the petition to the Legislature" had more members added to it, and was requested to report immediately.

The committee on "a schedule of regular and uniform prices for the practice of medicine" was not ready to report.

The committee on credentials reported favorably on the verification of the diplomas of Dr. Gates, Dr. C. M. Smith and Dr. Minvielle. These members came forward and signed the Constitution and By-Laws. Dr. Gates with a proxy signed for Dr. C. M. Smith.

On a motion duly made, seconded and unanimously carried—

The articles 4 and 8 of the constitution were amended. The time for holding the election of the officers of the society was changed, and fixed for the first Tuesday of May. The time of the regular meeting was also changed and fixed for twice a year—the first Tuesday of May and December.

The committee on the petition to the Legislature presented its report, which was approved.

On motion of Dr. Gates, duly made, seconded and carried, it was—

*Resolved*, That a copy of the petition be sent to our honorable

senators, M. J. Foster and R. Perry, and also to our representatives, C. Young and A. Voorhies.

On motion of Dr. Gates, duly made, it was—

*Resolved*, That delegates be appointed to represent this society, at the next meeting of the Louisiana State Medical Association, on the 31st inst.

Motion adopted.

Dr. C. M. Smith and Dr. Maguire were appointed from St. Mary, Dr. Woolf and Dr. Blanchet from Iberia, and Dr. Thomas from St. Martin.

On motion of Dr. Gates, duly seconded, it was—

*Resolved*, That a copy of the petition to the Legislature be sent to Dr. C. M. Smith to be presented, also to the Louisiana State Association, with the request to co-operate.

Motion carried.

Dr. Thomas offered the following resolution—

*Whereas*, by the amendments just made to the constitution, the election for the officers of the association is now fixed for the first Tuesday in May; and whereas, the offices of our present officers becoming vacant on the first Tuesday of April, and no meeting being fixed this year for the month of May, therefore be it—

*Resolved*, That we proceed at once to the election of our officers for the coming year, to take charge of their respective offices on the first Tuesday of May next.

The resolution was seconded and carried.

Dr. C. M. Smith and Dr. A. Maguire were nominated for president. Dr. Maguire was elected.

Dr. Geo. J. Colgin and Dr. Blanchet were nominated for and elected vice president and secretary.

Dr. Woolf was elected treasurer.

On motion of Dr. Thomas, the president elect was requested to prepare an address for the next meeting in December.

On motion of Dr. Gates, it was

*Resolved*, That it is the desire of "The Attakapas Medical Society" to follow the good example of the "New Orleans Medical and Surgical Society," the "Orleans Parish Society,"

and similar associations, that have intelligently considered the deficiencies of our organization in this State; that it is our purpose to become useful in this grand reform, and our united energies shall be devoted to the accomplishment of that object; that our personal experience in the several branches of medicine shall ever be submitted to the inquiring minds of medical men; that it is derogatory to the dignity and interests of the profession for a member of a recognized medical society to engage in any *trade or calling*, the duties of which are inconsistent with the legitimate pursuit of his profession; that it is unprofessional to do cheap contracts for societies, plantations, etc.

Motion seconded and carried.

Dr. Gates offered and read the report of one of the rare cases of *oblique inginal hernia* in a female, and also reported a remarkable case of gun-shot wound of the shoulder joint.

Dr. Meslayer presented a subject with cancer, and Dr. Deblanc a case of muscular atrophy.

On motion of Dr. Thomas, duly made and seconded, the meeting adjourned to meet in the parish of St. Mary, at Franklin, on the 7th of December, 1880.

L. G. BLANCHET, M. D., *Secretary.*

## Reviews and Book Notices.

*Headaches, their Nature, Causes and Treatment.* By William Henry Day, M. D., Mem. Roy. Col. Phys. (London); Phys. to Samaritan Hosp. for women and children. Third edition, with illustrations. 12 mo. Pp. 322. Philadelphia: Lindsay & Blakiston, 1880. [Sold by Armand Hawkins, 196½ Canal street, New Orleans. Price $ 2 00.]

The appearance of a third edition of this work, within three years of its first publication, affords abundant proof of its appreciation, so that scarcely more is now needed than to announce its reappearance.

The present custom of bringing out monographs on the principal subjects of practical medicine and surgery has its advan-

tages in affording ample material on a given subject in a volume of convenient bulk; but, on the other hand, there is a tendency to diffuseness, hard to be resisted by one who writes upon his favorite topic. In the present work we think Dr. Day would have rendered his teaching more available, and consequently more advantageous, if he had compressed it into one-half the number of pages. Life is too short and the world too full of books to allow time for one person to keep up with the progress of medicine in all its branches; consequently the general practitioner will prefer monographs in concise and systematic style, rather than the diffuse and dropsical language which specialists are apt to assume.

After these abstract remarks, we are ready to say that the general practitioner, for whose use this volume is intended, will find its chapters much more satisfactory than the paragraphs devoted to the same topics in systematic works on medicine. Headaches are chargeable with a large share of human suffering, which are generally endured with patience and silence, from the indifferent success achieved by practitioners in their relief. This is not creditable to the medical fraternity, and we are sure that the attentive study of this little book would go far to remove this reproach. S. S. H.

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*The Theory and Practice of Medicine.* By Frederick T. Roberts, M. D., B. Sc., F. R. C. P., Prof. of Mat. Med. and Therapeutics at University College, With illustrations. Third American, from the fourth London edition. Philadelphia: Lindsay & Blakiston, 1880. New Orleans: Armand Hawkins, 196½ Canal street. Price, $5 00.

When a work on the Practice of Medicine passes through four editions within as many years, it is pretty good evidence that it fills a want. Hence, in noticing the appearance of a new edition of Roberts' practice, it is only necessary to call attention to the improvements which have been made in it in order to render it a trustworthy exponent of demonstrated facts and accepted theories in modern medicine. In the chapter on the diseases of the absorbent system, the latest researches have been availed of as shown by the references to Mr. Messenger Bradley's work on the diseases of the lymphatic system, and

Dr. Curnow's excellent Gulstonian lectures on the same subject, both published in 1879. The exposition of this unsatisfactory class of diseases is clear and explicit.

The diseases of the nervous system are very fully treated. Here also the most recent work done in this field by Ferrier, Hitzig and Fritsch, Gowers, Charcot, Hughlings Jackson and others has been drawn upon to make the book representative of contemporary medical science and art.

In the chapter on contagion and epidemics the germ-theory is discussed as fully as the limits of the work allow, and while the author is non-committal, he evidently believes at heart in the theory of *contagium vivum.*

Altogether, a somewhat lengthy examination of this edition confirms our previously formed opinion, that as a safe guide to the student, Roberts' practice has no superior among medical text-books, in the English language. The publishers' work, as is usual with this firm, is well done. Ro.

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*Photographic Illustration of Skin Diseases.* By George Henry Fox, A. M., M. D., Clin. Prof. of Dermatology, Starling Med. Col., Columbus, O., etc. 4to. New York: E. B. Treat. 1879. [Sold by N. D. McDonald & Co., 116 Carondelet street, New Orleans.]

In the January number we gave a favorable notice of the four first parts of this splendid work. Four more are now before us. Part V. illustrates Eczema infantile, E. papulosum, E. ichorosum, E. pustulosum and E. squamosum; part VI. Eczema barbæ, E. manum, E. venis varicosis, Ulcus varicosum and Psoriasis annulata; part VII. Lupus vulgaris, L. erythematosus, Epithelioma superficiale and E. rodens (two plates); part VIII. Trichophytosis capitis, T. corporis, Lichen planus (two plates), and L. Ruber.

The superiority of these illustrations of skin affections to all others yet published is well sustained in these parts. It is proposed to publish only four more, but we are sure that the list of illustrations, from which these are selected, would furnish materials quite sufficient to extend the work considerably further, and we hope the publisher will find encouragement to enlarge its original scope. S. S. H.

# Books and Pamphlets Received.

*The Principles and Practice of Gynæcology.* By Thomas Addis Emmet, M. D., Surgeon to the Women's Hospital of the State of New York, etc., etc.

*Clinical Notes upon the use of The Galvano-Cautery.* By William A. Byrd, M. A., etc., Quincy, Illinois. Reprint from *The Practitioner*, January, 1880.

*A State Board of Health. A Communication to a Member of the Legislature on Sanitary Organization and Administration in the State of New York.* By Stephen Smith, M. D., of New York.

*Gleanings from the History of Medicine. An address delivered in Evansville, Indiana, November* 4, 1879. By J. A. Ireland, M. D., of Louisville, Kentucky, President of the Tri-State Medical Society. Reprint from the *St. Louis Medical and Surgical Journal*, January 5, 1880.

*On the use of Water in the treatment of Diseases of the Skin.* By L. Duncan Bulkley, A. M., M. D., etc., 13 pages. Reprint from *Chicago Medical Journal and Examiner*, January, 1880.

*A New Method of Permanently Removing Superfluous Hairs.* By L. Duncan Bulkley, A. M., M. D., 7 pages. Reprint from *Archives of Dermatology*, October, 1878.

*On the Nomenclature and Classification of the Diseases of the Skin.* By L. Duncan Bulkley, A. M., M. D., etc., 15 pages. Reprint from *Archives of Dermatology*, April, 1879.

*Annual Announcement of the Medical College of the Pacific, Session of* 1880. San Francisco, Cal.

*On a case of Molluscum Verrucosum, presenting certain unusual features.* By James Nevins Hyde, A. M., M. D., Professor of Dermatology, Rush Medical College, Chicago.

*Vicarious Menstruation.* By H. G. Landis, A. M., M. D. Reprint from *The Cincinnati Lancet and Clinic*, February 28th, 1880.

## Meteorological Summary—March.
## Station—New Orleans.

| Date. | Daily Mean Barometer. | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. |
|---|---|---|---|---|---|
| 1 | 30.18 | 64.7 | 76.3 | East. | . |
| 2 | 30.22 | 65.7 | 81.7 | East. | .... |
| 3 | 30.09 | 70.7 | 78.7 | South | .01 |
| 4 | 30.01 | 71.7 | 82.0 | S. W. | ... |
| 5 | 30.04 | 74.5 | 76 7 | S. W. | .... |
| 6 | 30.06 | 74.2 | 77.7 | South | ... |
| 7 | 30.02 | 74.0 | 78.7 | South | .... |
| 8 | 29.91 | 69.0 | 84.0 | N. E. | 2.81 |
| 9 | 30.01 | 64.7 | 72.0 | North | .55 |
| 10 | 29.97 | 66 0 | 86.3 | East. | .03 |
| 11 | 29.89 | 72.5 | 87.3 | South | .... |
| 12 | 29.98 | 72.2 | 84.7 | South | .54 |
| 13 | 30.06 | 66.0 | 84.3 | North | .30 |
| 14 | 30.06 | 65.2 | 91.3 | North | .24 |
| 15 | 29.87 | 69.2 | 82 7 | S. E. | .62 |
| 16 | 30.11 | 51.2 | 68.0 | N. W. | .06 |
| 17 | 30.18 | 51.7 | 64.3 | N. E. | .... |
| 18 | 29.88 | 67.2 | 86.7 | N. E. | .02 |
| 19 | 30.05 | 62.0 | 73.3 | North | .13 |
| 20 | 30.22 | 61.5 | 58.3 | N. E. | .13 |
| 21 | 30.25 | 59.5 | 79.3 | N. E. | .38 |
| 22 | 30.18 | 59.2 | 89.7 | East. | .84 |
| 23 | 30.17 | 63.0 | 64.7 | N. E. | .... |
| 24 | 30.17 | 65.0 | 54.3 | North | .... |
| 25 | 30.16 | 64.5 | 59.7 | S. E. | .... |
| 26 | 30.01 | 69.2 | 69.3 | S. E. | .... |
| 27 | 29.95 | 68.5 | 64.7 | N. W. | .... |
| 28 | 30.02 | 66.2 | 32.7 | N. W. | .... |
| 29 | 30.10 | 63.5 | 47.0 | North | .... |
| 30 | 30.17 | 60 0 | 51.7 | East. | .... |
| 31 | 30.12 | 64.5 | 61.3 | S. E. | .... |
| Sums | | | | | |
| Means | 30.069 | 65.7 | 70.9 | North | 6.66 |

### General Items.

Mean Barometer, 30.069.
Highest Barometer, 30.311, on 21st.
Lowest Barometer, 29.811, on 15th.
Monthly Range of Barometer, 500.
Highest Temperature, 81° on 5th. 6th.
Lowest Temperature, 42° on 17th.
Monthly Range of Temperature, 39°.
Greatest Daily Range of Temperature, 24° on 18th.
Least Daily Range of Temp., 5° on 14,
Mean of Maximum Temperatures, 72°0.
Mean of Minimum Temperatures, 59° 0.
Mean Daily Range of Temp., 13° 0.
Prevailing Direction of Wind, North.
Total Movement of Wind, 6,222 miles.
Highest Velocity of Wind and Direction, 24 miles, Southwest on 15th.
Number of Clear Days, 7.
Number of Fair Days, 11.
Number of Cloudy days on which no Rain fell, 2.
Number of Cloudy Days on which Rain fell, 11. Total number of days on which rain fell, 15.
Dates of Luna Halos, 25th.

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871 | | 1876 | 59.9° |
| 1872 | | 1877 | 60.7° |
| 1873 | 60.4° | 1878 | 66.4° |
| 1874 | 66.2° | 1879 | 64.7° |
| 1875 | 63.5° | 1880 | 65.7° |

COMPARATIVE PRECIPITATION

| | | | |
|---|---|---|---|
| 1871 | inches. | 1876 | 11.22 inches |
| 1872 | " | 1877 | 4.94 " |
| 1873 | 5 10 " | 1878 | 4.63 " |
| 1874 | 7.57 " | 1879 | 1.36 " |
| 1875 | 10.84 " | 1880 | 6.66 " |

GEORGE H. ROHÉ,
*Sergeant, Signal Corps, U. S. A.*

## Mortality in New Orleans from March 21st, 1880, to April 17th, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| March 28 | 0 | 9 | 19 | 0 | 8 | 109 |
| April 3 | 0 | 5 | 27 | 0 | 6 | 112 |
| April 10 | 0 | 2 | 17 | 0 | 5 | 100 |
| April 17 | 0 | 3 | 16 | 0 | 6 | 114 |
| Total.... | 0 | 19 | 79 | 0 | 25 | 435 |

NEW ORLEANS
# MEDICAL AND SURGICAL JOURNAL.

JUNE, 1880.

## ORIGINAL COMMUNICATIONS.

### Differential Diagnosis of Tumours in the Scrotum.

By S. LOGAN, M. D.

(Read before the New Orleans Medical and Surgical Association, March 27, 1880.)

In the ever-recurring combats waged by the medical man in active practice with the multitudinous diseases and accidents incident to human life, his first move not unfrequently decides the issue. To make that more efficiently he must be as well acquainted with the battle-field as circumstances permit. He must, if practicable, thoroughly diagnose his case; for unless he knows the dispositions of the enemy his plans of attack or of defence must necessarily be indefinite and therefore less effective.

As the science of medicine becomes more exact, and consequently the art of medicine as exemplified in practice becomes more accurate and defined, the subject of differential diagnosis attracts more and more attention. The profession owes much to the great intellects who have, in modern times especially, labored successfully in this field. They have gleaned a rich harvest whose beneficient effects, have entered into all the details of practical medicine. To such men as Laénnec and Velpeau, in France; Latham and Williams, in Great Britain; Guttmann, in Germany, and Da Costa and the Flints, in America, we shall always acknowledge ourselves as greatly indebted for their researches and their systematized productions in this line.

The first thing to be done by the practitioner of medicine or surgery, when he assumes charge of a case is to find out "what is the matter"—to make his diagnosis. To do this he has to rely much more on himself than when next he comes to apply the therapeutics. To assist him in the latter, he has the recorded experience of the profession at large to guide him; while to make his diagnosis he has to rely on his own resources, aided, of course, by his previous study.

Once he has made his diagnosis, it is only a matter of memory or of reference—should time permit—to apply the appropriate therapeutics. It follows, therefore, that few lessons are more beneficial than those by which diseases or injuries bearing a gross likeness are grouped together and then differentiated from each other.

These are the reasons which have influenced me in inviting your attention this evening to the "Differential Diagnosis of Tumours in the Scrotum."

In this group we have many affections more or less similar in many respects, and yet widely differing in Etiology, Pathology and Prognosis; a careful differential diagnosis becoming, therefore, of the greatest importance.

So numerous are the affections which may cause a swelling in the scrotum, that a general classification with divisions and subdivisions becomes essential to their proper consideration.

Whenever I am confronted with such a case, I am in the habit of first asking myself the following question: Does the swelling originate here or has it been produced by causes originating elsewhere? I think you will find this a useful primary division of the subject. The first requisite in making a diagnosis of any local disease or accident, is to know to what diseases or accidents the given part is liable. Well; this part is liable to some swellings which may originate elsewhere, and some commence in the part itself. Let us go over the tumours which may be found under each of these great divisions; and as we ennumerate them, let us consider their special diagnosis.

First: *Tumours of the Scrotum originating elsewhere.*

We find them under the following heads: (a) *Urinary infiltration;* (b) *Hernia.* This division does not include many

varieties; but it is of the highest importance to distinguish them from other conditions with which they may be confounded. Nor is this always so easy a matter as may be supposed at first glance.

(a) *Urinary infiltration*, must be distinguished from (1) simple oedema; from (2) erysipelas; from (3) strangulated hernia and from (4) scrotal neoplasms.

(1) From simple oedema it may be recognized by the history of urinary troubles; by the more active inflammatory symptoms; and by instrumental exploration of the urethra. As a rule there will be no difficulty here—but we must bear in mind, that in oedema itself we sometimes see quite an active, even rapidly destructive grade of inflammation. The presence, however, of the symptoms and the history of urinary trouble will settle the question.

(2) Urinary infiltration may be distinguished from subcutaneous erysipelas of the scrotum, by its history; by the presence of a stricture, as proven by instrumental exploration; and by the escape of urine on practicing the incisions demanded by both conditions: while the cutaneous form of erysipelas will be recognized by the absence of the above mentioned symptoms, and the evidently superficial character of the inflammation.

(3) From strangulated hernia, urinary infiltration will hardly be difficult to recognize when we bear in mind—first, the history,—in the one case to pointing to an anterior and inguinal origin, in the other to a posterior,—in the one case to bowel trouble, in the other to urethral and vesical distress. Again, the strangulation in hernia, to have produced so much inflammatory action as to simulate that caused by urinary infiltration, must have reached an almost fatal degree; and the prolonged intestinal obstruction, the collapse, the tympanitis and the evident localization of the chief suffering in the neck of the hernia and abdominal cavity will establish the diagnosis.

(4) At first glance it might be inferred that no difficulty need be expected in effecting a differential diagnosis between urinary infiltration and scrotal neoplasms. My experience,

however, proves the contrary, as the below mentioned case will show.

In order to explain the possibility of making a mistake in this regard, it must be borne in mind, that urinary infiltrations do not always present the acute phenomena usually found. We may say that there are two classes met with—i. e., those characterized by acute and those presenting chronic symptoms. The former variety is familiar to all, being by far the most common; while the latter is well known to those who see many cases of genito-urinary disease—though comparatively rare. In the chronic cases the urine escapes in such small quantities at a time, that, instead of rapidly streaming through the areolar spaces and producing a correspondingly extended area of inflammatory action, it remains near the point of escape from the urethra; there excites a localized inflammation, and the result is a distinct tumour, hard and circumscribed, the fluid becoming walled in by organized plasma. Further escape of urine, little by little, causes a more or less rapid increase in the size of the tumour till at last suppuration results and a fistulous opening is formed through the hardened mass. These tumours thus formed vary in size, from that of a chestnut to that of an orange. Before the fistulous opening finally divulges the true nature of the swelling, it may readily be mistaken by even practitioners of judgment and general experience, for a neoplasm. The following is a case in point.

Case I. B ——, colored; laborer, aged about 35, was sent to my office by a medical friend of large practice and proved ability, about eight years ago, with a hard tumour occupying mainly the middle line of the scrotum just in front of the perineum. The patient brought a note from my friend to the effect that he had diagnosed a cancer and wished to know whether in my opinion it would not be best to remove it at once. The swelling was round, hard, about the size of a small orange and had been about six weeks in attaining those dimensions. It was the seat of severe pain and the patient stated that it was hard from the beginning. Its peculiar central position and the manner in which it appeared as if attached to the walls of the urethra attracted my attention and upon making the necessary

inquires I found that he had long suffered from difficulty in micturating, and urethral exploration demonstrated the existence of a narrow indurated stricture. Coincident with the relief of the stricture, the swelling gradually disappeared entirely, without even the formation of a urinary fistula.

I have had many other cases where a like mistake might easily have been made. To be forewarned in this regard is to be forearmed. A careful inquiry as to the previous history with urethal exploration suffices to lead us to the proper diagnosis.

Let us now consider the other form of scrotal swelling belonging to the first division, or those originating elsewhere, i. e.:

(b) *Hernia.* When strangulated or irreducible, it is to be distinguished from (1) urinary infiltration; (2) orchitis, especially gonorrhœal or epididymitis, with or without orchitis; (3) inflamed hydrocele or hæmatoceli, and when not strangulated form (4) varicocele; (5) hydrocele, especially when of the cord or congenital, and hæmatocele; (6) neoplasms.

(1.) *Hernia when strangulated or irreducible from urinary infiltration.*

What has been already said when speaking of the differential diagnosis of urinary infiltration will cover all that is to be said under this head.

(2) *Hernia when strangulated or irreducible from orchitis and epididymitis, or the two combined*, especially as a complication of a gonorrhœa. Both hernia and orchitis are so common that we need not be surprised at their coincidence, and that the one should be occasionally mistaken for the other, Perhaps orchitis, with or without epididymitis, is more frequently taken for strangulated hernia than vice versa. I have known of one case in which surgical assistants were called on and instruments prepared, when the appearance of a discharge from the meatus excited attention, and led to such a more cautious investigation as to result in the correct diagnosis. When we bear in mind the fact that the cord as well as the epididymis is frequently quite large and exquisitely tender in the gonorrhœal cases, we need not be surprised that a hasty examination might lead to such a serious error, especially if the patient be the subject of hernia. The history of the case—on the one hand point-

ing towards hernia, on the other towards inflammatory local troubles will materially assist in the diagnosis—bearing in mind, however, that the two conditions may coincide—that indeed even strangulated hernia and orchitis may exist together. The prolonged absence of alvine evacuations, with increasing abdominal symptoms; the rapidly increasing evidences of a desperate malady; the thready pulse; the impending collapse; the clammy skin; the stercoraceous vomiting; the facies hippocratica, will soon point out the fatal tendencies of a strangulated hernia; while the comparative mildness of the general symptoms; the fact that the pain, fever, etc., are not progressively worse and worse, but often soon reaching a climax and then declining, or at least remaining stationary for a day or two, will indicate the less serious condition. The merely irreducible hernia is easily distinguished by the absence of any local inflammatory trouble, and by its soft doughy character; and even a strangulated hernia, while frequently quite tense, has not the solidly hard feeling of the inflamed tesitcle.

(3) *Hernia, when strangulated, from inflamed hydrocele or hæmatocele.*

Here again the history of the case; the ingravescent feature of all the symptoms, and the other above mentioned characteristics of strangulated hernia, will usually suffice for a positive diagnosis. But here too a hasty conclusion may lead to error. It must be borne in mind that almost any scrotal swelling may be called "a rupture," and the physician is not unfrequently led astray by the positive assertion of the party, that he has a rupture. We often meet cases who have worn trusses for months, and even years, and who have never been the subjects of hernia. I have known cases of hydrocele and other swellings, in which the truss has even been fitted by the attending physician. It behooves the practitioner of medecine to be cautious in such cases, for his own sake, as well as the good of his patient.

Case II. Some years ago, a patient was sent into the Charity Hospital, by a physician who had diagnosed "a badly strangulated hernia," and who sent word that the case required immediate operative relief, as taxis, etc., fairly tried had utterly

failed. The man was suffering severe pain—or at least so stated,—had considerable fever with some vomiting, of no fœcal character however,—and an immense tumour the size of a small watermelon, occupying the left side of the scrotum. It was hot, purplish red, highly sensitive and tense. But it evidently came to an abrupt rounded termination against but outside of the external inguinal ring. There was no tympanitis or other abdominal symptom; he had taken opiates and that accounted for the vomiting, constipation, and perhaps some of the delirium also present in the case.

An active cathartic was given, which purged him freely in a few hours, and the next day a free incision was made into the cavity of an inflamed hæmatocele, and an immense quantity of bloody serum, mixed with flakey pus was evacuated; a large fold of the hypertrophied tunica vaginalis was removed; the cavity was washed; a drainage tube inserted, and in a few days the patient was fairly convalescent. The patient informed the writer that he had been wearing a truss for years, and exhibited one considerably the worse for wear, to substantiate his assertion.

In this particular case, the best marked local diagnostic feature, was the rounded and abrupt termination of the tumour, evidently external to the inguinal ring.

(4) *Hernia* (*not strangulated*) *from varicocele,*

Here both tumours are, ordinarily, reducible. But the hernia slips back altogether, as it were, and usually with a gurgling sound, while the enlarged veins are but slowly emptied of their contents by steady and continuous pressure even to the last drops. Then the hernia receives a more decided impulse when the patient is made to cough; though in a large varicocele where the veins are enlarged even in the inguinal canal this may be also perceived, in a measure, in some cases. The earth-worm feeling present in varicocele, if marked, is quite characteristic; but where the veins are very large they may feel like intestines. The test proposed by Sir Astley Cooper must not be for gotten in a doubtful case. You will remember that it consists in reducing the swelling, and then placing the thumb well applied against the external ring, or the internal if the swell-

ing can be traced that far, while the patient stands up. If it be a case of hernia the intestine is held back, or if it escapes past the finger it produces a characteristic sensation; while if the case be one of varicocele the swelling is gradually reproduced as the blood slowly fills the veins again. If the hernia be irreducible this test cannot of course be applied.

(5.) *Hernia (not strangulated) from hydrocele or hæmatocele.* Ordinarily the distinction can readily be made. The hernia is soft or doughy and often palpation elicits a characteristic gurgling; the hydrocele or hæmatocele is yielding but tense and elastic. The hernia may be traced up and into the ring; the hydrocele comes to a rounded limit outside the ring, generally not even reaching the cord. Gather up the hernial mass in the palm of the hand and gently press it upward; tell the patient to cough, and an impulse will be transmitted through the contents of the tumour to the palm of the surgeon's hand. Do the same to a hydrocele, and, while the whole mass may be shaken, that internal transmittal of visceral impulse will be wanting.

If the patient be capable of giving a reliable history, he will tell you, should it be a hernia, that it came down from above, and generally, he is in the habit of putting it up, or it goes up when he goes to bed; if it be a hydrocele he will tell you that it began "in the bag," and generally at the bottom of it.

It is true that a hydrocele of the cord, or an encysted hydrocele may lie well up against the external ring, but its tense elastic feeling, and its irreducibility will usually suffice to distinguish it. Then again, a congenital hydrocele is reducible; but not with the sudden slipping and, it may be, gurgling of hernia, but it slowly and gradually empties its contents into the abdominal cavity. The hernia pops back with promptness, especially if the patient coughs; the hydrocele refills gradually, and is not much influenced by abdominal succussion.

I attach but little importance to the light test. A hydrocele is often opaque from accidental hæmorrhage, and an hæmatocele (practically identical with hydrocele) is of course always so. This test may be of some use in cases where we suspect a coincidence of hernia with hydrocele; and even then the possi-

bility of the fluid being opaque with blood, to a great extent nullifies the result of such an examination.

(6) *Hernia from neoplasms in the scrotum.*

The above memtioned symptoms of hernia will ordinarily suffice to distinguish it from any of the numerous varieties of new growths. The history, if reliable; the feelingunder manipulation; the prolongation of the hernia into the abdominal cavity; the transmitted visceral impulse, &c., will ordinarily suffice to designate its nature. When, however, we pass in review the differential diagnosis of each variety of scrotal neoplasm it may in some instances be requisite to mention other special points of distinction as applicable to the special form of tumour under consideration.

II. We have next to consider the tumours originating in the scrotum. These are so numerous that a systematic classification is very desirable. I think that this classification—especially with a view to a differential diagnosis—is best made on an anatomical basis as follows: (a) affections of the skin: (b) of the underlying connective tissue and dartos: (c) of the blood-vessels of the cord, especially the veins: (d) dropsy of the tunica vaginalis: (e) diseases of the testes, epididymis and cord.

Then, under each of these heads we must further differenciate various special diseases.

(a) Local affections of the skin, may be grouped under the following heads: (1) *cutaneous erysipelas;* (2) *elephantiasis;* (3) *epithelioma.*

In regard to the first, there will hardly be any trouble in the diagnosis. The swelling is seldom so extensive as to similate a scrotal tumor, and the same symptoms which characterize this form of diffuse inflammation elsewhere, will suffice to identify it when occurring in this locality.

(2) *Eliphantiasis* of the scrotum.

This may be distinguished from other tumours, by the abnormal feeling of the skin. It is nodulated, hard, stiff and evidently hypertrophied; while other tumours lie under, and do not generally involve the skin itself, which may usually be

lifted up from the diseased tissues beneath. The exceptions to this are found in the later stages of malignant disease, and in the suppurative and ulcerated stages of scrofulous degenerations. Under both of these circumstances, the skin is drawn into and involved with the originally deep-seated pathological processes.

These exceptions can be recognized by the distinctly localized phenomena, and the absence of the general hypertrophy of elephantiasis, which at the same time seldom ulcerates; while ulceration and suppuration are necessarily present in the two other conditions.

Elephantiasis, it must be remembered, is not unfrequently complicated with hernia; which may be reducible or irreducible. If reducible, this fact alone will generally suffice to indicate its existence. If, however, the hernia be irreducible, then the diagnosis is more difficult owing to the fact that the indurated and thickened condition of the skin renders it impossible to derive any satisfactory information concerning the facts beneath by means of digital palpation. In a very large case in which I assisted in the removal of the tumour, it was impossible to form a positive opinion as to this complication before operating, but bearing in mind the danger, the operator was on the lookout, and sure enough an irreducible hernia was present. The removal was effected safely and the patient finally recovered.

(3) *Epithelioma—soot wart*, or *chimney sweepers cancer.*

Here too there is hardness and thickening of the skin; but it is more localized than eliphantiasis; tends towards ulceration long before it attains anything like the proportions of that disease, and is more painful. Indeed there is but little suffering in elephantiasis. It is possible, however, that epithelioma here as elsewhere may be confounded with various chronic sores. The indurated, lumpy edges; the fact that the ulceration was preceded by a wart or local induration; that pricking pains dart through it at times, and that the neighboring little vessels soon begin to enlarge; will serve to indicate the nature of the disease.

(b) *Local affections of the subcutaneous tissues of the scrotum,*—

may be classified as follows: (1) *Simple œdema.* (2) *Subcutaneous* or *phlegmonous erysipelas.*

(1) *Simple œdema* is easily recognized by the phenomenon of pitting; by its boggy feeling; by the absence of active symptoms of inflammatory action; and by the presence of cardiac, renal or other disease of such a character as to develop other coincident dropsical symtoms.

(2) *Phlegmonous erysipelas;* must be distinguished from the violent grade of inflammatory action often caused by urinary infiltration. A careless diagnostician may readily confound the two. Indeed the phenomena are almost identical, and it is only by enquiring into the history,—directing the questions chiefly to the condition—preceding, as well as present—of the urinary apparatus, and by exploring the urinary canal that the diagnosis can be positively made out. Then all is clear and the indications for action are positively defined.

(c) *Affections of the blood-vessels of the cord.*

Varicocele is the only affection which need be considered under this head. It is to be distinguished from hernia by means already considered under that head. From other swellings in this region it can be readily diagnosed by its soft flabby feeling, and by recognizing the worm-like shape of the distended veins. By the absence of great tenderness under manipulation it differs from all the inflammatory swellings.

(d) *Dropsy of the Tunica vaginalis,* shows itself under the two forms of hydrocele and hæmatocele. Not unfrequently the latter follows the former—especially after tapping or accidental injury. Indeed these two conditions are practically identical, except in those cases of rapidly forming hæmatocele from traumatic causes.

In either variety we have a tense elastic tumor; of rather indefinite duration and equally indefinite size; forming first, as a rule, low down in the scrotum and in front of the testicle; assuming generally the shape of a pear with the upper extremity or neck of the pear rounded off abruptly and evidently not penetrating the abdominal walls.

In speaking of strangulated hernia I have already alluded to the possibility of mistaking a hydrocele or hæmatocele which

has taken on inflammatory action for that serious trouble; and a case in point was given. I need not do more in this connection than merely refer to that portion of this paper.

The differential diagnosis from non-strangulated reducible hernia is easily made by simply reducing the hernia—except in the congenital form of hydrocele. Here it must be borne in mind that reduction of the tumour may be effected by steady continuous pressure. But the sudden slipping in of the hernia is very different from the very gradual emptying of the sac in congenital hydrocele.

To distinguish hydrocele from irreducible hernia may be a little more difficult. Here, however, the tense feeling and rounded abrupt upper extremity of the hydrocele usually suffices to identity it, as contra-distinguished from the relaxed, often gurgling, soft mass of intestine or omentum.

But perhaps, the most important point in the study of the differential diagnosis of hydrocele has yet to be considered. It is not unfrequently confounded with encephaloid of the testicle. When we come to consider the diagnosis of that affection we will discuss this matter more fully. Suffice it to say that in case of the least doubt it is always best to explore with the hypodermic syringe or aspirator before committing oneself in the premises. This expedient may also be resorted to in case the diagnosis is doubtful from strangulated hernia. In resorting to it here, however, it must be borne in mind, that a reddish or even a straw-colored fluid may be found in the sac of the hernia. If all the fluid, however, be evacuated, it will be found that in cases of hernia the quantity will be comparatively little and the tumour will usually be but little diminished; while in case of hydrocele the quantity is very considerable and when all the fluid has been withdrawn the tumour has almost, if not quite disappeared. This latter statement, however, must be qualified in this respect, *i. e.*, if the case be one of encysted hydrocele in which there is more than one sac, each sac has to be punctured separately before the tumour disappears. In a case of hernia from the sac of which an unusual amount of reddish serum has been obtained, the general symptoms of strangulation are, as a rule, so apparent that there can be no doubt in re-

gard to the condition, especially when it is found that, notwithstanding a large quantity of fluid has been removed, and a corresponding diminution of the tumour has been thereby effected, the inguinal canal or external ring—as the case may be—is still packed with the remains of the swelling, pushing itself into the abdominal cavity. No such condition of affairs will be found in a case of hydrocele or hæmatocele.

(e) *Affections of the testicles, epididymis and cord.*

These may be considered under the following heads: (1) *Orchitis* and *epididymis*, acute and chronic. (2) *Scrofulous* or *tuberculous disease.* (3) *Syphilitic disease.* (4) *Malignant disease.* (5) *Other tumours*—as *fibromata; cysto-sarcomata; cystomata;* and *euchondromata.*

(1) *Acute* and *chronic orchitis*, complicated or not with *epididymitis*, are chiefly recognized by greater or less active evidences of inflammatory action as contra distinguishing them from the other more slowly developing swellings or neoplasms. The distinction between acute orchitis, especially when accompanied by epididymis and inflammation and swelling of the cord, on the one hand, and strangulated hernia on the other hand has been already sufficiently considered under the latter head.

Chronic orchitis must be differentiated from scrofulous diseases, syphilitic disease, and neoplasms in general. It will sometimes be quite difficult to do so: indeed in the two former cases we have really in many instances a certain grade of chronic inflammatory action.

As a rule, however, in simple chronic orchitis, we have the following points to aid us. In the first place we fail to make out, as a rule, either a tubercular or a syphilitic history. In the second place, the organ is much more tender under manipulation, than in either of these affections or any of the neoplasms. In the third place, the swelling while hard is at the same time smooth on the surface, a condition seldom or ever seen in the two conditions most apt to be confounded with it: i. e., scrofulous and syphilitic disease. These affections almost always present one or more nodules corresponding to the location of the tubercular or syphilitic infiltration. In the

fourth place, the swelling is of more rapid production than in either of the above diseases. In the fifth place, it is to be distinguished from the malignant neoplasms, by its greater tenderness and yet as a rule less spontaneous pain. It is also a more solid tumour than the usual form of carcinoma found here: i. e., the encephaloid. Indeed so rare are the harder forms of cancer here, that some have even denied their existence.

The features by which it can be distinguished from other neoplasms, will be mentioned when we come to consider the latter in detail.

(2) *The tubercular or scrofulous testicle*, may be mistaken for the *syphilitic* testicle; for *malignant disease;* for *hydrocele, or* or for a *neoplasm.*

Sometimes it may happen that the two conditions of syphilitic and tubercular disease co-exist, as I am quite confident I have observed in more than one case, and as one of our authorities also affirms.

We can see no reason why this coincidence may not be found.

The history of the patient's previous health, or that of his ancestry may aid materially in the diagnosis. But here we must not forget that some cases of the so-called tuberculous or scrofulous testicle, present no family or personal history pointing to that diathesis. What is called the scrofulous testicle, however, may be usually recognized by the torpid increase of the swelling; which begins as little hard lumps or nodules in the substance of the gland. The organ seldom attains a size larger than a duck egg, this feature soon aiding in distinguishing it from malignant disease. It also tends to early suppuration, and fistulous openings soon form, as in scrofulous inflammations elsewhere. Succeeding the melting down of tubercular material, we may have the phenomenon of a hernia testis; which may possibly be mistaken for either the fungus hæmatodes of true cancer, or the ulceration of epithelioma. But I have never seen a cancer reach the stage of fungus hæmatodes before the malignant growth had reached such dimensions as to preclude the supposition of tubercular disease; while to distinguish a

hernia testis from ulcerated epithelioma we must remember the different phenomena characterizing the previous history of the respective diseases. The epithelioma starts on the skin; the scrofulous tumour begins as one or more nodules in the substance of the testicle. The affection is apt to attack one organ after the other, and this aids in diagnosing it from other tumours. Again the fungus of the scrofulous testicle never bleeds with the profuseness and readiness of a true fungus hæmatodes. In case of doubt, subject a small piece of the hernia testis to observation under the microscope and the anatomical elements of the testicle are readily detected, not so of course if it be a case of malignant fungus hæmatodes.

(3) *Syphilitic disease of the testicle*, possesses many of the features of the scrofulous affection; but it attains a greater size, and does not show by any means so marked a tendency to suppurative action. It is more apt to infiltrate a larger portion of the organ with its peculiar material and thus enlarges more generally, though still beginning like the other by one or more small nodules deposited in the substance of the organ. The same features which differentiate the scrofulous testicle, from the various other swellings in this locality, will apply equally well to the syphilitic affection. It is here necessary then only to specify in more detail the differences between these two. The syphilitic disease may be further distinguished from the tubercular affection, by the nocturnal pains sometimes found in the former; by the favorable results attained by specific treatment; and by the fact that, as a rule, the syphilitic disease is not so apt to attack both organs in succession as is the scrofulous, perhaps because it is more amenable to treatment. I have, however, seen both organs attacked either simultaneously or in succession, as in the following case:

Case III. P. G., aged about 56,—robust, history perfectly free from suspicion of scrofula or other cachexie, personal or by inheritance, except that of tertiary syphilis, of which there were marked indications,—applied to me in 1877 for relief from two enormous hydroceles—one in each tunica vaginalis—which had been developing for about eight or ten months. It was impossible to diagnose the condition of the testicles before operating

for the hydroceles. I cut out an eliptical portion of each sac—the operation I almost always now resort to—and when the fluid was evacuated both testicles were found as large as duck eggs, and evidently the subjects of syphilitic infiltration. Specific treatment was instituted, and with such marked results as to fully confirm the diagnosis as to the nature of the disease of the testicles.

Whether in this case the syphilitic infiltration of the two organs was simultaneous, or consecutive, I had no means of ascertaining.

(4) *Malignant disease.*

The form of carcinoma almost invariably found in the testes is encephaloid. For practical purposes we may discard all the other varieties. If this fact be borne in mind the differential diagnosis will be much simplified. Encephaloid of the testicle has then to be distinguished from the following diseases: (a) hydrocele and hæmatocele; (b) other neoplasms.

(a) *Encephaloid from hydrocele and hæmatocele considered together.*

This is perhaps the most important of all the diagnostic studies we have yet engaged in. Perhaps the best method of proceeding in its elucidation will be to enumerate the symptoms of encephaloid, and contrast them with those of hydrocele or hæmatocele.

*First.* The previous history and inheritance. From this not much information of diagnostic value is to be derived. While a history of ancestral cancer may tend to awaken suspicion it can do but little more, for very many cases present no such history.

*Secondly.* Rate of development. Here again we find, but little, on which to found a differential diagnosis. Nothing is more indefinite than the rate of progress in the tumours under consideration. I have seen a pure encephaloid take four years to attain the dimensions of a small head; and I have had cases of hydrocele to take about the same time to assume such proportions. (See case further on.)

*Thirdly.* Shape. At first an encephaloid is rounded; a hy-

drocele usually pear-shaped; but an hæmatocele is often rounded like encephaloid. Usually, however, the hæmatocele which assumes this shape is one formed very rapidly,—promptly after some injury—too rapidly to be an encephaloid—say within a few hours or a few days. This promptness of development together with a history of tramatism will usually suffice to indicate the nature of such a swelling.

As the encephaloid increases steadily in dimensions it almost invariably assumes a bossellated shape. The disease, no longer confined within the tunica-albuginea, sprouts in parts through this tough envelope, involves the superincumbent tissues and there develops a kind of tuberous off-shoot from the main growth, producing the change of shape alluded to. It matters not how large or how old be the hydrocele, no such change occurs. But it is a pity if the diagnosis has been so long delayed, either by ignorant neglect on the part of the patient to apply to the proper person, or by the fault of the medical adviser. Here, if anywhere, an early diagnosis is urgently demanded. So that these symptons, which require such delay for their development, while of prime importance when the case is seen late, are generally too late to inure to the benefit of the patient, as compared with such symptons as assist us in an early diagnosis. Delay in such cases is terribly dangerous. I cannot too urgently insist on a prompt diagnosis in all cases of scrotal tumours, and to do this we must consider more especially the symptoms which are appreciable at an early stage of the disease.

*Fourthly.* The feeling of the tumour. The disease first confined within the tunica-albuginea stretches and distends that membrane; and, the morbid substance being soft—somewhat softer in many cases than brain—a feeling of fluctuation is soon developed to such an extent as to simulate that produced by a hydrocele or hæmatocele—especially if, by rough usage or other cause, the tunica-vaginales in the hydrocele or hæmatocele has become thickened. In such cases an early diagnosis is sometimes extremely difficult. Under such circumstances take a hypodermic syringe, the aspirator or a fine trocar and canular,

and explore the centre of the tumour. I prefer the latter instrument as a rule; because by using it we have the means at hand of emptying the sac of the tunica-vaginalis in a few minutes, provided hydrocele be present; thus giving us the opportunity of examining the testicles, after the fluid is removed; while at the same time we give the patient the benefit of a temporary—possibly a permanent—relief from the fluid accumulation. If it be a cancer, the fine delicate instrument I use—such as is employed in infantile hydrocele—does no manner of harm.

Under the head of the feeling of the tumor we must not forget that even in the earliest stages in cancer, we fail to discover any distinction between the tumor and the testes; while in hydrocele and hæmotocele this distinction can often be made perceptible to the patient, as well as to the surgeon. For when the healthy testicle is pinched, a peculiar sickening pain is produced. This I have not found to be the case when a testicle infiltrated and destroyed by carcinoma is subjected to a similar test.

*Fifthly.* The appearance of the tumour on the surface, in encephaloid, soon begins to indicate its nature. The skin becomes traversed with enlarged blood vessels; while no such change occurs in hydrocele or hæmatocele, as a rule, at least to any marked degree.

*Sixthly.* The nature of the pain in encephaloid is characteristically different from that of hydrocele. In the former case it is lancinating; often coming on without the least provocation—even when the part is supported and the patient in bed; while in the latter it is of a dragging kind; often referred to the back; generally relieved by supporting the tumour so as to avoid traction on the cord; seldom or ever occurring while the patient is recumbent, and not unfrequently of such a slight character that the patient makes no complaint of it. It must be stated, however, that in a few cases encephaloid of the testicle gives little or no pain. Such has been my observation in several cases. We must not, therefore, attach undue importance to its absence, though when present, and when its presence is ascertained by carefully interrogating the patient so

as to elicit his own description of its character, without giving him what the lawyers call leading questions—it becomes a symptom of great value in making out the differential diagnosis,—not only from hydrocele and hæmatocele, but from all other tumours occurring in these parts.

*Seventh.* Involvement of surrounding parts. It matters not how large the hydrocele or hæmatocele, neither the skin, the cord, nor the neighboring lymphatics show any sign of disease; whereas I need hardly say that they all, sooner or later, become involved in cases of encephaloid. This is another distinguishing feature which, while characteristic, is unfortunately too tardy in its development to prove of much value in the attainment of that great desideratum—an early diagnosis. In the case already alluded to, which came under my care four years after the testicle first began to show signs of disease, no such involvement had occurred, notwithstanding the immense size to which the tumour had grown.

*Eighth.* Constitutional cachexy. This is another symptom whose value is much lessened by its late appearance. By the time it shows itself, the other symptoms have pretty generally settled the diagnosis. In doubtful cases, however, it may prove of some value. That there are any special phenomena characterizing the debility induced by cancer in its later stages is itself rather questionable. The earthy hue, the emaciation, the prostration, etc., etc., differ in no recognizable degree from what we see as the results of other exhausting diseases.

(b) *Diagnosis of encephaloid from other neoplasms.*

In a general way many of the symptoms already enumerated as serving to effect a differential diagnosis between encephaloid and hydrocele and hæmatocele, will also serve the same purpose in regard to other neoplasms occasionally found here. But as we enumerate these latter their individual points of difference from cancer will be mentioned.

The chief points of distinction will be found in the rapid growth; the large size; the characteristic lancinating pain and the increasing vascularity around and over the cancerous growth; while the comparatively early involvement of surrounding parts

and the lymphatics, with the gradual debility, earthy hue and emaciation still later on may confirm the diagnosis, in the absence of other causes for such evidences of vital exhaustion.

(5) *Other neoplasms.*

The testicles are occasionally found to be the seat of the following non-malignant tumours:

(a) Cysto-sarcoma; (6) cystoma; (c) enchondroma.

(a) *Cysto-sarcomatous* tumours of the testicle, formerly called fibro-cystic, are very rare. They may attain a great size, but are of slower growth; are less vascular; less painful—except from their dragging weight;—do not involve the neighboring lymphatics and do not produce the cachexia of malignant growth.

They may be distinguished from hydrocele accompanying chronic orchitis or the scrofulous or syphilitic testicle—a complication which in my experience is quite common, by the facts that the cysts—if perceptible by palpatation—seem buried in the growth, not lying separate from it; and that when said cysts are evacuated their contents are quite limited, while the withdrawal of the fluid hardly lessens in any marked degree the size of the swelling, the rigid walls of the cysts—constituted as they are of the sarcous growth—failing to collapse as does the tunica vaginalis after a hydrocele has been emptied of its contents.

Neither the syphilitic nor the scrofulous testicle ever attains the size of a cysto-sarcoma; nor does the latter tend to suppurate as does the scrofulous disease.

(b) *Cystomata.* These are occasionally found containing various substances—as cuticle, hairs, teeth, etc.—and their diagnosis is mostly effected after exploration and evacuation of their fluid contents. This evacuation not disposing satisfactorily of the tumour, exploratory incisions should follow; and, after due examination of the exposed parts an immediate diagnosis is effected, and all disease removed at once.

Presenting none of the cardinal symptoms already enumerated as belonging to malignant disease their differentiation from the same should present no special difficulty.

(c) *Enchondroma.* Sometimes—but very rarely—this form

of neoplasm presents itself. Here as elsewhere it assumes, clinically, two forms, the rapidly growing and the slow growing. The former may be mistaken on account of its rapidity of growth for scirrhus cancer itself—even a still more rare tumour in the testicle. The absence of the other cardinal symptoms of cancerous disease should prevent such a mistake Practically, however, this is of little moment, for removal is demanded in either case, and the examination of the tumour afterwards will reveal its true nature, and indicate the appropriate prognosis.

I have thus, gentlemen, enumerated the affections of these parts which may produce a tumour or swelling, and endeavored to present to you what in my experience have proven the most useful features for effecting the proper diagnosis in each case. These affections are many and of most diverse character; and the necessarily prolix detail has I fear tried your patience sorely. As my apology I have to plead the intrinsic importance of my subject, and the correspondingly earnest desire I feel to so present the facts as to inure to the best practical good. The surgeon in active life instinctively reaches out for a correct diagnosis, not merely with the intellectual appetite of the pure scientist; but for the higher and nobler purpose of benefiting his patient in the case before him. His mental query—earnestly put—"what is this?" derives its chief significance from the reflection that it is to be immediately followed by the query, "what am I to do about it?" The vast array of symptomatology embodied in this paper, and anatically examined, has been to the best of my ability arranged with the object of so generalizing and grouping the items as to afford, I trust, some aid in answering the latter query.

In dealing with scrotal swellings our therapeutical indications may be divided into three classes. In some cases we must resort to medication; in some cases to minor operative measures and in some to total ablation. The choice is determined by the diagnosis. If I have in the least aided any of my confréres in making hereafter a judicious selection in so serious a matter my object will have been accomplished.

Please accept my thanks for you patient attention.

## The Physiological Action of Atropia as Demonstrated by Experiment.

By JOHN T. JONES, New Orleans La.

1st EXPERIMENT.

To a young kitten, about three weeks old, and weighing about ¾ lbs., I gave a subcutaneous injection of gr. ½ atropia sulph.

Symptoms: first quarter minute, slight dilatation of pupil;

After 1 minute, absolute dilitation;
After 7 " subsultus tendinum;
After 15 " convulsions and tracheal respiration.

Judging from the manifested effects that the amount of the poison injected, was sufficient to produce fatal results, I gave a second subcutaneous injection of gttj acid hydrocyanici dil. and almost immediately an abatement of the previous alarming symptoms took place, and the little animal recovered completely.

2nd EXPERIMENT.

To a young kitten, twin sister to the former, I gave a subcutaneous injection of gr. ¼ sulphate atropia.

Symptoms: in 2 minutes the pupil was perfectly dilated, the breathing very much accelerated, and the temperature rose 1½°. There were no convulsions, but the animal seemed to be unable to walk, and often fell down, in the attempt to move, especially its hind legs were dragged along in its creeping course. When pricked with a pin, the kitten gave only slight evidence of feeling pain, its ears seeming to be the most sensitive part. In 25 minutes after the injection, the kitten seemed to be in a perfect state of stupor, lying motionless on its belly, and enjoying apparently a death-like sleep. Breathing was also gradually diminished in frequency, until, after an hour's time, it had almost entirely ceased, I then gave another subcutaneous injection of morph. sulph. grs. iii. Whereupon the breathing was immediately restored, the animal rallied and soon recovered completely.

3rd EXPERIMENT.

Into another twin sister of the two previous kittens, I injected gr. iii atropia sulph., partly subcutaneously and partly into its jugular vein. All the symptoms of the two first kittens mentioned, became immediately visible, but in a more aggravated form. I apprehended speedy death, and therefore drowned it. I then dissected out one of its eyes, and dropt its humours on the eyes of two other cats. But no dilatation took place in either of them.

4th EXPERIMENT.

Dog, medium size, weighing 24 lbs., previous to its receiving the hypodermic injection, its temperature was 99.4°, pulse 92. I gave it a subcutaneous injection of gr. i atropia sulph.

SYMPTOMS.

The dog became extremely restless, so that I found it impossible to ascertain its temperature and pulse-rate. It walked confusedly, knocking its head frequently. Copious and frequent urination followed. Its breathing became so accelerated, that it was impossible to record it with any degree of accuracy. It shortly became overwhelmed, so that the slightest touch caused it to fall, and when pressed on its back, it fell on its abdomen with its forelegs extended. Insensibility to pain supervened to a marked degree, and profound stupidity followed. After the lapse of 20 minutes, I gave it an injection of morph. sulph. gr. iv. The animal almost immediately became quiet, its temperature stood then at 101°, the breathing became more easy, and gradually returned to its normal frequency. The pupil, which previous to the injection of morphia was very much dilated, now became less so and in 20 minutes time almost normal. It finally recovered.

5th EXPERIMENT.

On a kitten 4 weeks old I cut down through the abdominal wall in the inguinal region, to where the iliac artery, nerve and vein lie in the one sheath. I then separated the vein and nerve, and ligated it in two places. The artery below the lower ligature soon became white, showing plainly a depriva-

tion of blood, and the vein collapsed. I then injected subcutaneously grs. ii $\frac{5}{6}$ of atropia sulph. in five different doses, viz: 1st gr. i, after 50 minutes gr. $\frac{1}{3}$,—15 minutes later gr. $\frac{1}{2}$, in 35 minutes later gr. $\frac{1}{2}$,—in 25 minutes after gr. $\frac{1}{2}$.

The following table will show the variations in the number of respirations and temperature, at different intervals after each injection:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 minutes | before | 1st | injection, | No. | Respir. | 67 | per min. | Tem. | 99° | |
| 5 | " | after | " | " | " | " | 58, | " | not | taken. |
| 15 | " | " | " | " | " | " | 54, | " | " | " |
| 30 | " | " | " | " | " | " | 60, | " | 91.5. | |
| 45 | " | " | " | " | " | " | 66, | " | not | taken. |
| 5 | " | " | 2nd | " | " | " | 45, | " | " | " |
| 14 | " | " | " | " | " | " | 56, | " | " | " |
| 10 | " | " | 3rd | " | " | " | 61, | " | " | " |
| 15 | " | " | " | " | " | " | 47, | " | " | " |
| 5 | " | " | 4th | " | " | " | 30, | " | " | " |
| 10 | " | " | 5th | " | " | " | 27, | " | " | " |
| 15 | " | " | " | " | " | " | 18, | " | " | " |

The pupils became dilated after the first injection, the urine flowed away while I was opening the animal's abdomen, and the same occurred immediately after the first injection, but was not again repeated after any of the other injections. The animal at first became very much excited, this became constantly more aggravated, subsultus tendinum frequently taking place and finally convulsions followed in rapid succession and continued till the animal's death, which occurred in five minutes after the last observation was taken. In this case the leg whose iliac artery I ligated became paralyzed, while the other leg with its circulation unobstructed, escaped this injurious effect, and was capable of vigorous movements. This result is in accordance with a physiological law, which H. C. Wood, in his therapeutics (page 236) seems entirely to ignore, viz: that "if the artery supplying a muscle or set of muscles, be tied, their contractile power is destroyed."

The temperature of the leg whose artery I ligated fell in a perceptible degree and continued so till life ended. The precise temperature of the animal's body I cannot state, since the

lowest marking of my thermometer, is 95° and at no time after the first injection, did its temperature reach that height, I could therefore only state it to be below 95°. As to the pulse, it was so feeble, both before and after the injection, that I could not record it accurately.

6th EXPERIMENT.

On an old female cat, weighing 7 lbs., I cut down through the skin and fascia of the upper part of the thigh, until I reached the femoral artery, and having separated it from the vein and nerve between which it lies, I ligated it in two places. I then dissected off the skin of the neck, on each side of the trachea to the length of three inches, carefully avoiding to do any injury to the numerous vessels and nerves to be met with in this region. I separated the pneumogastric nerves from their accompanying carotid arteries, on both sides of the neck, and completely divided them with the knife. The respirations of the animal, which before the division of the vagi nerves were 56 per minute, immediately fell to thirty. Directly after dividing the vagi, I gave a hypodermic injection of sulphate atropia, gr. i. In the course of three more minutes the respiration rose to 37 per minute, at which rate it continued for two minutes longer, when the animal taking one long inspiration, ceased breathing and died.

My intention of studying the effect of the injected atropia on the respiration of the animal, after division of the vagi, and more especially in what manner the leg, with its circulation free, would be differently affected from the leg with its supply of blood completely cut off, could not, to my great regret, be realized on account of the death which so speedily followed the operation, and also on account of the fact that the paralysis of the limb, naturally resulting from the complete loss of its blood supply, would more or less obscure the action of the medicine.

7th EXPERIMENT.

On another large female cat, which weighed 6½ lbs., I ligated the femoral artery which I found to be extremely small, so that its pulsation was scarcely perceptible. I then injected gr. ½

into its jugular vein, and grs. iii subcutaneously of atropia sulphate, with the following results, in regard to the respiration and temperature; the pulse, on account of its extreme feebleness, not being countable.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 minutes | before | injection, | No. | respirations | 78 $\frac{per}{min.}$ | temp. | 101.8° |
| 5 | " | after | " | " | " | 92, | " | 101.2° |
| 15 | " | " | " | " | " | 76, | " | not taken |
| 20 | " | " | " | " | " | 80, | " | " |
| 25 | " | " | " | " | " | 76, | " | " |
| 40 | " | " | " | " | " | 60, | " | " |
| 55 | " | " | " | " | " | 67, | " | " |
| 60 | " | " | " | " | " | not taken | " | 99.8° |
| 65 | " | " | " | " | " | 56, | " | not taken |
| 102 | " | " | " | " | " | 60, | " | " |
| 145 | " | " | " | " | " | 70, | " | " |
| 165 | " | " | " | " | " | 114, | " | " |
| 185 | " | " | " | " | " | not taken | " | 96.8° |
| 195 | " | " | " | " | " | 86, | " | not taken |
| 205 | " | " | " | " | " | 84, | " | " |

In fifty minutes after the injection, the animal had a violent tetanic convulsion, subsultus tendinum was also developed at the same time. These convulsions occurred at variable intervals in the course of the next few hours; any sharp, sudden noise being sufficient to bring them on. [In the case of this animal, I noticed that the leg, with its circulation free, was moved more slowly and feebly than the leg with its circulation obstructed by ligation of its principal artery.] Before administering the injection of the poison, I examined the interior of the animal's mouth and found it moist as usual. I again examined it sometime after the injection and found it unusually dry, without the slightest trace of any kind of moisture. Notwithstanding the large amount of the alkaloid injected, the animal recovered, without the employment of any antidote.

8th EXPERIMENT.

A small dog, weighing 12 lbs., received a hypodermic injection of atropia sulph., grs. v. with the following results:

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 minutes | before | inject. | respir. | 134 | per min. | temp. | 101° | pulse | 88. | per min. | | | |
| 10 " | after | " | " | too fast | to | count | " | 101. 4° | " | too | fast | | |
| 40 " | " | " | " | " | " | " | " | " | 101. 6° | " | " | " | |
| 60 " | " | " | " | " | " | " | " | " | not | taken | " | | 150 |
| 80 " | " | " | " | | 80 | | | " | " | " | " | | 120 |
| 135 " | " | " | " | | 168 | | . | " | 101° | " | | | 90 |
| 180 " | " | " | " | not | taken | | | " | 99° | not | taken | | |

About 10 minutes after the injection, the dog vomited up the contents of its stomach, and became paralyzed, lying on its side with its head drawn back, apparently avoiding the light. It sometimes endeavoured to rise up, but each time fell down again when half risen.

When at 250 minutes after the injection its breathing was reduced to 15 respirations per minute, I gave it a hypodermic injection of morph. sulph. grs. v. Its breathing was then immediately restored, and soon became as fast as before. But at the end of two hours after the injection of the morphia sulphate, the dog's breathing again began to fail, and was restored by a second injection of the morphia salt. Regular breathing continued only for a short time, when it again began to fail, making another injection of the salt necessary. This fluctuation in the breathing occurred very frequently, and was only counteracted each time, by the employment of the morphia sulphate. The aggregate of morphia injected, in this manner, amounted to grs. xv. The dog finally recovered; the only noticeable effect, left by the poison in 12 hours after, being slight paralysis of the hind legs, which however disappeared in the course of 24 hours more.

The proportion of the morphia salt to that of the atropia used in this experiment, was as three to one, while that recommended by all experimenters is five to one. But perhaps the fact that such a small amount of the antidote sufficed in this case, may be accounted for by the economical manner of using it, it not having been given until the breathing had almost or entirely ceased.

9th EXPERIMENT.

In a large dog, the same upon which I performed the 4th

experiment, I injected atropia sulph. grs. vii ss in 16 doses, at intervals, in the space of two hours and a half.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Before 1st inject. pulse was 80. $\frac{per}{min}$ | | | | | | | | | temp | | 100.8. | resp. | 92 $\frac{per}{min}$ | |
| 5 | min | after | 1st | " | " | " | 74 | | | " | not taken | " | 42 | " |
| 3 | " | " | 3rd | " | " | too fast to count | | | | " | " | " | " | 96 " |
| 2 | " | " | 4th | " | " | " | " | " | " | " | " | " | " | 106 " |
| 2 | " | " | 11th | " | " | " | " | " | " | " | " | " | " | 130 " |
| 2 | " | " | 12th | " | " | " | " | " | " | " | " | " | " | 180 " |
| 5 | " | " | " | " | " | " | " | " | " | " | " | " | " | 174 " |
| 10 | " | " | " | " | " | " | " | " | " | " | not taken | " | 174 | " |
| 20 | " | " | " | " | " | " | " | " | " | " | 101 | " | 158 | " |
| 5 | " | " | 13th | " | " | " | " | " | " | " | not taken | " | 178 | " |
| 10 | " | " | 14th | " | " | " | " | " | " | " | " | " | 150 | " |
| 5 | " | " | 15th | " | " | " | " | " | " | " | " | " | 124 | " |
| 5 | " | " | 16th | " | " | " | " | " | " | 100.6, | | " | 84 | " |
| 15 | " | " | " | " | " | " | " | " | " | not taken, | | " | 64 | " |
| 20 | " | " | " | " | " | " | " | " | " | " | " | " | 58 | " |
| 25 | " | " | " | " | " | " | " | " | " | " | " | " | 28 | " |
| 30 | " | " | " | " | " | " | " | " | " | 100.7, | | " | 22 | " |
| 40 | " | " | " | " | " | " | " | " | " | not taken, | | " | 16 | " |
| 55 | " | " | " | " | " | " | " | " | " | " | " | " | 12 | " |

In this experiment it was remarkable that the large amount of atropia administered, produced less striking effects than was produced one week before on the same animal by a dose of gr. j of the sulph. atropia. The respiration and pulse rate in this ninth experiment seem to have been of ell other functions affected by the drug. The dog was surely excited, but could walk, and pressure on its back, though slight, caused it to fall. It also urinated frequently, and it is hardly necessary to say that its pupils were so dilated as to produce for the time being perfect blindness. This manifestation of toxemia lasted only for a few hours, when the dog had completely recovered without the benefit of any antidote.

### 10th EXPERIMENT.

On the same dog on which I performed the eighth experiment. The interval between the eighth and tenth experiments was six days.

My object in this experiment was to prove the antidotal effect of the morpha as used in experiment eighth, by killing the dog with the same quantity of the poison employed in that experiment.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Before injection | | resp. 36, | pulse 90 $\frac{\text{per}}{\text{min.}}$ | temp. 100° |
| 5 | minutes | after | | " | " 40, | " 136, | not taken |
| 15 | " | " | | " | not taken, | not taken, | 99.8 |
| 5 | " | " | 2d | " | 154, | not taken, | not taken |
| 15 | " | " | " | " | not taken, | 174, | not taken |
| 10 | " | " | 10th | " | too fast to count, | 85, | 99.8° |
| 30 | " | " | " | " | too fast to count, | 114, | not taken |
| 44 | " | " | " | " | 144, | 138, | not taken |
| 55 | " | " | " | " | 90, | not taken, | 99.8° |
| 60 | " | " | " | " | 54, | 120, | not taken |
| 65 | " | " | " | " | 126, | 138, | not taken |
| 75 | " | " | " | " | not taken, | 138, | not taken |
| 80 | " | " | " | " | 22, | not taken, | not taken |
| 90 | " | " | " | " | not taken, | 150, | not taken |
| 95 | " | " | " | " | 26, | 120, | not taken |

This animal was, with the exception of its pulse rate and breathing, very little affected by the poison. Only temporary blindness was produced, no antidote was given, and yet the animal recovered completely.

11th EXPERIMENT.

On a toad, I injected subcutaneously the $\frac{1}{3}$ of a grain of sulph. atropia, corresponding to the one thousandth part of the animal's weight. This injection, having escaped through the hole in the skin, left by the needle of the syringe, on its having been too hastily withdrawn, dilation of the pupil and acceleration of breathing were consequently the only effects noticable. I, therefore, after the lapse of half an hour, gave another hypodermic injection of atropia sulph., gr. $\frac{1}{3}$. In the course of an hour paralysis became developed, which after a lapse of 30 minutes had grown complete, and remained so for fully 12 hours. At the end of this time the animal showed symptoms of gradual recovery, by dragging its hind legs after it, then leaping for the space of an inch, till at the end of 24 hours the

animal had recovered completely. At no time before or after the paralysis was there any convulsive movements perceptible, nor could I discover after careful and repeated examination any dryness of the mouth and throat.

12th EXPERIMENT.

I opened a toad's abdominal and thoracic cavites, and after taking careful cognizance of the respiration, cardiac pulsations and persistalic movements of the intestines, I injected subcutaneously a solution of sulph. atropia, corresponding to one thousandth of the animal's weight. I could not record the effect of the alkaloid on the toad's temperature. But the following table will show the variation in the cardiac pulsation, for an hour after the injection:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | minute | before | injection, | cardiac | pulsation | 126. | per min. |
| 10 | " | after | " | " | " | 106. | " |
| 15 | " | " | " | " | " | 72. | " |
| 23 | " | " | " | " | " | 72. | " |
| 33 | " | " | " | " | " | 78. | " |
| 42 | " | " | " | " | " | 68. | " |
| 55 | " | " | " | " | " | 55. | " |
| 60 | " | " | " | " | " | 60. | " |

The breathing could not be recorded on account its having become almost imperceptible. Peristaltic movements increased in frequency to a very striking degree for 5 minutes after the injection. But then they began to diminish, and in 3 minutes time ceased to be perceptible. The animal died in seven hours, death being the consequence of the operation.

13th EXPERIMENT.

On a toad, I opened the abdominal and thoracic cavities, the same as in the previous experiment. Here the lungs protruded and the abdominal and thoracic viscera became exposed. But after 5 minutes the lungs retired within the chest as if drawn there by suction force. I then gave a hypodermic injection of the one-thousandth part of the little animal's weight. Here, too, the respirations could not be counted with any degree of accuracy, at first on account of its great rapidity, and its sudden cessation after some time. Neither could I record the ani

mal's temperature for the same reason, which I inadvertently omitted to state in the relation of the previous experiment, viz: the want of a proper thermometer.

The following table will show the variations in the number of cardiac pulsations per minute, for 425 minutes after the injection:

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | minutes | before | injection. | cardiac | pulsations, | 118 |
| 1 | " | after | " | " | " | 110 |
| 6 | " | " | " | " | " | 108 |
| 13 | " | " | " | " | " | 98 |
| 15 | " | " | " | " | " | 82 |
| 26 | " | " | " | " | " | 96 |
| 30 | " | " | " | " | " | 72 |
| 40 | " | " | " | " | " | 50 |
| 55 | " | " | " | " | " | 56 |
| 425 | " | " | " | " | " | 42 |

14th EXPERIMENT.

**On a toad,** I opened the thoracic cavity and injected a concentrated solution of the sulph. atropia directly on the animal's heart.

I regret very much that the notes which I took down in this experiment were accidently destroyed. But immediately after the contact of poison with the heart muscle, the number of cardiac pulsations was diminished more than one-half. They continued at this rate for seven minutes, when they became more frequent, and in fifteen minutes after the injection the number of heart-beats was the one-half of what it had been previously. After about fifteen more minutes, the heart began again to beat slowly, and continued doing so till the animal's death, which occurred in a few hours afterwards.

RESUMÉ.

Having thus indifferently described these few experiments, I will now endeavor to briefly summarize the results and the conclusion arrived at regarding the action of atropia on the system in general, and its special influence on particular organs and their functions.

GENERAL ACTION.

The most prominent and indisputable effect of atropia, and which perhaps was the cause of its first introduction into the materia medica, is dilatation of the pupil, and as a consequence disorder of vision. Next in time and prominence is dryness of the mouth and throat together with acceleration of the blood-circulation, as manifested in the increased frequency and rapidity of the cardiac pulsations and frequent respirations. Expulsion of urine almost invariably follows with subsequent retention of this excretion. Many observers assert that erection of the penis in the male always occurs as soon as the poison becomes absorbed by the system; and I, from my own observation in experiment 4th can confirm this assertion of others. A staggering gait is also noticable a short time after the administration of the alkaloid, provided a large dose has been given. Many authors also speak of a "peculiar, talkative, wakeful delirium," but in no instance of any of my repeated experiments have I been able to detect the manifestation of any symptom which would lead me to suppose the animal was delirious. "Death is usually preceded by a failure of the heart's action and of the respiratory forces; in most cases it is brought about by asphyria." In performing experiment 9th I was not a little astonished to notice how very slight was the influence of the atropia on the dog, administered hypodermically in the quantity of grs. viss. and this the more, since the same animal, in my 4th experiment, was almost overwhelmed by the poisonous power of gr. i. of the drug. The same peculiarity attracted my attention in my 10th experiment. In this instance I performed the experiment on the same animal upon which I had performed the 8th experiment. While in the 8th experiment the dog under the influence of a hypodermic injection of atropia sulph. grs. v. showed all the symptoms of toxemia in a most aggravated form, indicating a speedily fatal issue; so that, in order to prevent the threatened death of the dog, I was obliged to resort to a hypodermic injection of morphiæ sulphatis. Yet the same animal 6 days later, under the influence of the same quantity of the alkaloid, showed such good humour and fearless stoicism to the drug, that with the excep-

tion of the dilation of the pupils and fluctuation in frequency of the respiration, and heart-beats, no manifestation of the deadly nightshade's power was visible. I am therefore compelled to deduct from these observations of mine that the first administration of atropia to the dogs habituated them sufficiently to its action and rendered the animals insusceptible to its subsequent poisonous influence. Though I own that it must appear problematic that one dose could produce such an impression on the animal's system, as to render it insusceptible to the action of the drug after 6–7 days. This would perhaps appear unprecedented, yet with all the pains taken to find another solution of the problem, I was unable to do so, and am compelled to fall back for an explanation of this otherwise unaccountable phenomenon to the deduction alluded to above.

Prof. Bloebaum, the most prominent perhaps of all experi menters with atropia, also relates a similar observation of his own, with regard to the greatly diminished action of this alkaloid on a dog when administered a second time. This eminent experimenter went so far as to inject a large dose of the poison into the jugular vein of a dog, having a few days previously given the same dog a subcutaneous injection of the drug, From the large quantity injected and from its having been thrown into the jugular vein the Professor thought himself justified in expecting the speedy death of the animal, yet notwithstanding all this the dog not only remained alive, but even seemed to be scarcely at all affected by the poison. Prof. Bloebaum then drew the conclusion that dogs are especially insusceptible to the action of atropia. But can I accept this conclusion, while my own observations convince me to the contrary, that even a small quantity of the alkaloid is sufficient to produce alarming symptoms in the dog? With all due respect therefore to such an eminent authority, as Prof. Bloebaum certainly is, I cannot without doing violence to my own conviction, but rufute his theory and maintain my own explanation as given above, to account for the diminished action of atropia when employed on the same animal a second time.

Whether this law holds good of other animals and man, I

am at present unable to state, but hope to ascertain at no distant day, by further experiments.

### THE ACTION OF ATROPIA ON THE NERVOUS SYSTEM.

There can scarcely be a doubt that atropia, when given in sufficient quantity acts as a paralyzant, first, on the efferent or motor nerve, and secondly, and to a less extent on the afferent or sensitive nerves. The experiments 4, 6 and 7, which I undertook with a special view of testing the action of atropia on the nervous system, gave but negative results.

The failure in these experiments can be in great part accounted for by remembering the physiological law, before mentioned, that, "if the artery supplying a muscle or set of muscles be tied their contractile power is destroyed." In the 4th experiment, for the reason above given, the result was only partial and incomplete, while in the 6th experiment the animal died before any observation could have been made. I think it most probable, that, the artery which I ligated in my 7th experiment carried the circulation to the extremity by one of its branches higher up and this may account for the fact that the limb was still capable of a certain amount of vigorous motion after ligation of the artery. Botkin in his experiments with this alkaloid on the frog, having previously ligated the artery of one leg, injected subcutaneously a solution of atropia, and found that though the action of the poison manifested itself on the leg with its circulation free by paralyzing it, yet the leg whose artery had been tied escaped the influence of the drug, retaining its full power of motion, and its capacity of responding to galvanic or other stimuli. He also found that, although, at first, irritation of the leg with its circulation unobstructed would cause movements in the opposite limb with its circulation cut off, yet after some time no response would be given to the irritation, unless it were directly applied to the non-poisoned extremity. Results in accordance were obtained by other able and distinguished experimenters, and reading over the relation of my experiments, it will be seen that one of them is corroborative of those of Botkin. They certainly indicate that though the primary and most marked effect

of the poison is on the motor nerves, yet that after some time the sensitive nerves are also effected.

Dr. Fraezer, of Edinborough, found in his experiments on the frog, that hypodermic injection of one part of the drug to the one thousand of the animal, is sufficient to produce complete paralysis, lasting for two or four days, succeeded by tetanus or convulsions. In my own experiments, while noticing the prompt development of paralysis, I failed to notice anything like tetanus or convulsions. Yet I must admit that the negative results, thus obtained, are by no means sufficient to disprove those obtained by Fraezer and corroborated by Lemattre. Besides this, although as stated above, I did not at any time see convulsions in the toad resulting from the action of the poison, yet I have seen them of the most violent tetanic character caused by it in the case of the cat in experiment 7th.

Dr. Fraezer further asserts, that when the spinal cord is cut high up in the neck in an animal, under the influence of atropia, convulsions continue, and that when access of the poison to the sciatic nerve is prevented by ligating the crural artery, the leg is in a state of tetanus, while the rest of the body is paralyzed. It is therefore evident, that atropia acts as a direct stimulant to the spinal cord.

### THE ACTION OF ATROPIA ON THE CIRCULATION.

The first evidence of the action of atropia on the circulation is a slight diminution in the number of cardiac pulsations, soon followed by an increase of the same. Injecting the alkaloid directly into the carotid artery, there is an "instantaneous fall in the rate of the heart's pulsation." The only reasonable inference to be drawn from these phenomena, is that by injecting the poison subcutaneously, or into the jugular vein, there, it paralyzes the vagus nerve, while by injecting it into the carotid artery it is first brought to the cardiac inhibitory centres, and directly stimulates them. This inference is strenghtened by the fact, experimentally determined by Bezold, Bloebaum and others, that section of the vagi nerves in animals fully under the influence of the drug, is not followed by any increase in the number of the heart's pulsations.

Many authors maintain that paralysis of the vagus nerve is not the sole cause of the increase of the cardiac pulsations, since in Lemattre's experiments the administration of atropia still caused an increase in the number of the heart's pulsations after section of the vagi. But looking over the minute details of a series of experiments by Prof. Bloebaum, I find that he obtained directly opposite results to those of Lemattre, and I therefore conclude that the question of its directly stimulating the cardiac accelator nerves, or nerve centres must still be considered as subjudice.

Botkin states that when atropia is directly applied to the heart, "it causes a great decrease and final arrest of its action." This I found to be true in my own experiment (14). From this we may reasonably infer that on the heart itself atropia has a direct depresant effect.

Dr. Wharton Jones, of England, found that atropia applied locally causes contraction of the capillaries, though this is asserted by Dr. Hayden, of Dublin, to be a mere reflex effect, resulting from the irritant action of the atropia; yet most experimenters, among whom we find no less authorities than Bezold, Bloebaum and H. C. Wood, confirm Jones' experiment, and his explanation of it. The cause of this action of the drug is undoubtedly attributable to its influence over the vasa motor centres, since the contraction of the capillaries did not take place by applying atropia to the frog's web when the vaso motor nerves were separated from their centres, by division of the cord high up in the neck. Judging from the evidence of many experimentors, we may take it for granted that small doses of atropia produce an increase and large doses a diminution of blood pressure within the arteries. The cause of this is not yet settled.

### ACTION OF ATROPIA ON THE PUPIL.

Although the action of atropia in dilating the pupil, has been the first recognized and is the most indisputable symptom, yet as to the reason for this action physiologists are by no means in accord with one another. The most prominent of these theories are that dilation is produced either, 1st, by paralyzing the circular fibres of the iris; 2d, by stimulating the radiating

fibres; 3d, by producing these two antagonistic effects on both sets of fibres, and 4th, by acting on the nerves which supply these parts. Though it can not so far be clearly demonstrated which of these theories is correct, yet it is reasonable to accept the fourth as most likely correct, since it seems to be incomprehensible how the poison should act on the one set of fibres and not at all on the other, or act upon the two sets of fibres in a directly opposite way, while both sets have the same anatomical composition, viz: unstripped muscular tissue. Dogiell applied electricity to oculo motor nerves without any effect on the pupil being produced; yet, immediate dilatation followed each application to the iris. Claude, Bernard and Lemattre found that mydriasis still occurs after section of the oculo motor, and Vierordt and others found that it still occurs after the removal of the ciliary ganglion. This tends to show that the poison exerts its influence externally to the ciliary ganglion and it is most likely to be a paralysis of the peripheral ends of the oculo-motor.

It is asserted that the aquerous humours taken from an eye under the influence of atropia, when dropped into another eye produces dilatation of the pupil, yet in one of my own experiments this proved not to be the case.

### ACTION OF ATROPIA ON THE RESPIRATION.

All experimenters agree that a small dose of the alkaloid produces a slowness of the breathing, while large doses cause increase in its frequency. This is well demonstrated in nearly all of my experiments before related. It is most likely that this increase in the frequency of the breathing is due to a direct stimulation of the respiratory centres in the medulla oblongata, since it occurs after division of the pneumogastrics, previous to administration of atropia. It is also likely that the peripheral ends of the pneumogastrics are affected, since their division in the animal, fully under the influence of atropia, is not followed by any marked change in the respirations.

### ACTION ON THE MOUTH AND FAUCES.

The action of atropia in producing dryness of the mouth and fauces, is the first of its virtues, with which we became acquainted, which has been demonstrated by all experimenters,

and which I have also seen. The reason for this action is probably to be found in supposing that the atropia influences the nerves leading to these glands in some manner as yet unknown so as to prevent their secretion.

ACTION ON THE INTESTINAL CANAL.

As to this, different authors differ materially; for while some report having found the intestines in a state of marked sedation, as a consequence of the action of atropia, others again assert that they have seen the intestines undergoing violent contractions after the administration of the drug. But my own observations prompt me to reconcile both of these diverging statements, for in my own experiments, though the intestinal movements increased at first for a short time, yet they again began to diminish, and continued diminishing until no peristaltic movement was perceptible. The cause of this phenomenon I am inclined to think is that the alkaloid, first paralyzing the splanchnics which are the inhibitory nerves of the intestines, brings about an increase of the peristaltic movements, and afterwards acting in the same manner on the muscular fibres causes a state of perfect sedation.

ACTION ON THE VOLUNTARY MUSCLES.

Though it is undoubtedly a fact that in full therapeutic or ordinary toxic doses, this alkaloid has but a very slight, if any, effect on contractility, yet it is proved by many experimenters that when the muscle is immersed in a concentrated solution of the drug, it becomes incapable of any contraction, even when a powerful galvanic stimulus is applied to it. It is therefore evident that it has some, though a very slight paralyzing influence on the voluntary muscles.

THERAPEUTICAL APPLICATION.

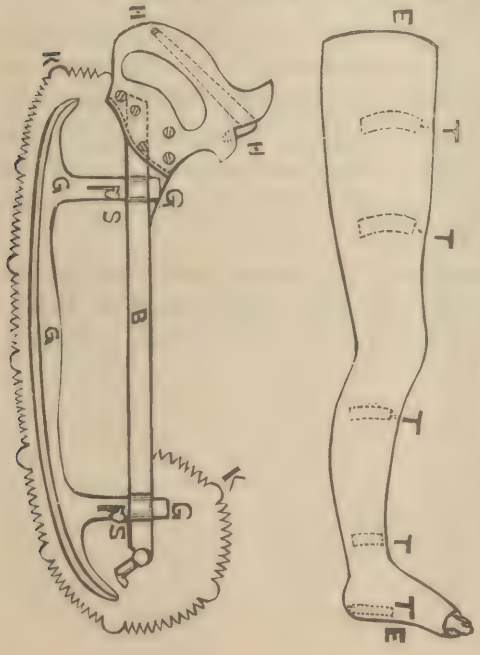
Never having had any opportunity to study the therapeutical application of this drug, with the care and diligence that would be necessary to enable me to speak of it with some degree of assurance, I prefer to pass over this part, important though it be, in silence. Only one thing in connection with the therapeutics of atropia do I beg leave to mention here: its antedotal effect to opium. In many of my experiments related above

and especially in experiment 8th, I noticed the strong antagonistic action existing between these two drugs, and how the breathing of the animal that was almost extinct under the influence of atropia was repeatedly restored by a hypodermic injection of morphiæ sulphatis.

## Plaster-Bandage Saw.

By C. W. TRUEHEART, M. D., Galveston.

With this instrument, plaster of Paris bandages of the limbs or trunk, can be rapidly and smoothly cut through (on opposite aspects of the bandaged part) and removed without risk to the patient. If desirable, the parts beneath can be thoroughly inspected by removing the one-half of the divided bandage at a time, while the other half is retained in position to prevent displacement of the fracture, or other abnormity under treatment. The same bandage, having been coated with impervious varnish, can then be *re-applied* and held in situ, without impairment of its efficiency, by simply splicing the cut-edged (E. E. fig. I) at several points with strips of tin (T) 1 to 2 inches wide by 3 to 6 inches long, (according to strength required) the tin being roughened like a nut-meg grater by numerous small holes punched from either side alternately, the two halves of the bandage being held together by a few turns of starch bandage, adhesive plaster or plaster bandage thrown around over the tin strips. By the



substitution of small strap hinges for the tin strips on one side, the bandage can be arranged to open like the lids of a book. Fenestrae can also be cut out by means of the small curve on the back or with the heel of the saw.

The blade of the saw is 18 inches long by 4 inches wide. Fig. II, which is a diagramatic representation, serves to illustrate the points of the instrument. The curved contour of the cutting edge renders it easy to saw on extended flat surfaces or even on concave surfaces. The addition of the sharp knife teeth (K), which are about $\frac{1}{4}$ of an in. longer than the interposed saw teeth, greatly facilitates severance of the roller bandage stuff combined in the plaster bandage. These knife teeth (16 in number) are $\frac{7}{16}$ of an inch in length at the base, $\frac{1}{8}$ of an inch in height and set so as to make cuts in the plaster a little to the outside, to the right and left of the cut made by the saw teeth. The saw teeth are isosceles shaped, 12 to the inch (measured from point to point).

The backbone (B) lends stiffness to the saw. The transverse bolt (P) serves as a subsidiary handle for the left hand when sawing with the small back or end curve of the saw.

The depth to which the saw cuts is regulated by the guage (G), which is fixed by the thumbscrews (S S). The blunt end of the spatula hook (H), which is sheathed in the wooded handle, serves as a sound to determine if the bandage is cut through at all points. The sharpened concave edge of the hook is useful to sever any shreds of roller bandage that interfere with the halves of the bandage.

I have used this instrument for several years and having found it to answer the purpose better than any other instrument proposed, I venture to call the attention of the profession thereto.

# Current Medical Literature.

## THE BENZOATE OF SODA IN PHTHISIS.

It will be remembered, that the attention of the medical profession was aroused in September, last year, by an announcement that phthisis pulmonalis in all its different stages could be cured by the very simple remedy, benzoate of soda, used in the shape of inhalations. In the first communication fifteen cases were mentioned, some of them with cavities as large as a fist, which had been cured in this manner in a remarkably short time. The curative effect was attributed to the faculty of the salt in killing the parasitic organisms in the lungs, supposed to be the origin of the disease. The announcement of these marvelous cures sounded very incredible but was sustained by Rokitansky in Innsbruck.

Drasche (Wiener med. Wochenschrift) has tried the use of benzoate of soda, and publishes his results with it in twenty cases of phthisis. The ages of the patients were between 19 and 54 years, and they represented all the different stages of the disease; four of them were suffering from limited catarrh in the apex of the lungs, 12 from more or less large solidifications, and in 4, cavities were developed. Among the patients 7 had had hæmoptysis, 4 had only seen streaks of blood in their expectorate. At the time when the treatment commenced, 9 were without fever, 11 had fever ranging between 99 and 104° F. One of the patients continued to use the inhalations for 50 days, finally using 10 drachms a day, and consumed in all 32 ounces of benzoate of soda; 6 of the patients used only 2½ drachms a day. The method is rather fatiguing and troublesome and necessitates frequent interruptions; in 2 patients there appeared pleuritis; 10 more had to discontinue the treatment on account of more or less dangerous symptoms. Very often the inhalations produced oppression, even symptoms of suffocation; at the same time the cough increased and continued day and night. Dizziness, fear, headache, vomiting and hiccup, were quite frequent symptoms. Often the patients complained of pains in the maxillar joints after the long-lasting seances and as a general thing the process was disagreeable to them and they were glad to stop the treatment.

Of the 20 patients treated in this way 6 died, 3 were in the last stage of the disease when this report was written, 5 were discharged in a somewhat improved condition, while the condition of the 6 remaining still in the hospital was worse, or very little changed. From this we may positively conclude that the treatment possesses no specific curative effect on phthisis; we shall now show the influence this treatment has upon the symptoms constituting the phthisical process:

In the first place there is nearly always noticed an increase of the cough and expectoration during the inhalations; this is due partially to the deeper inspirations, partially to the free benzoic acid, which is suspended in the steam; this acid irritates the mucous membrane of the bronchi, and renders the secretion more liquid and easier to expectorate. Often oppression appears, especially in patients with emphysema, complicating the phthisical process. At times it is also noticed that the patients cough and spit less after the inhalations, but such improvement is only of short duration, and may also be noticed by the inhalation of steam alone.

As the fever is of great importance in the development of the phthisical process, a remedy, which possesses curative effect on this disease, must necessarily also show its influence on the accompanying fever. Of the 9 patients who were without fever at the beginning of the treatment, 5 got fever with a temperature as high as 102.9° F. after having used the inhalations for several weeks, while on the other hand 2 patients previously with fever, got rid of the same during the treatment. In the 9 other patients the fever presented itself during the treatment in a very different way, being sometimes slight, at other times strong, in some patients continuous, in others intermittent, with a temperature as high as 104.3, and the variations in the intensity of the fever could not be brought in any relation to the length of time the patients were treated, nor to the quantity of the consumed benzoate of soda. At any rate the observations demonstrated clearly that the inhalations of the salt showed no influence whatsoever on the fever in the consumptive patients, who were submitted to this treatment.

The weight, which is always influenced by the development of consumption and by the intensity of the fever, decreased materially in the patients while using the benzoate, showing that this method is not capable of checking the progress of the disease.

Corresponding with this are also the observations in the stethoscopic changes during the treatment. Of the ten patients who used the inhalations for some length of time, two were suffering from incipient consumption, seven had more or less large solidifications, and in one a cavity had already formed. In the two first mentioned, only slight dullness and scarce rattling was to be found in the apex of the lungs at the beginning of the treatment; after the use of the inhalations, in six or seven weeks, the rattling sounds were more numerous, more extended and had become more sonorous. Still more clearly was the progress of the phthisical process demonstrated in the patients presenting solidifications at the beginning; the solidification became more complete, or extended to formerly not attacked parts, or cavities commenced to be formed. When cavities existed at the beginning, these increased in size.

The result of the observations shows that the inhalations of

benzoate of soda has no influence on phthisis. It is quite characteristic to see the phthisical process developed step by step in patients who at the beginning of the treatment presented nothing abnormous in their vocal chords and the mucous membrane of the larynx; these parts are easily and directly irrigated by the solution of benzoate of soda, and yet we see them in the beginning turn red, later they swell and become rugged and finally present ulcerations of a progressive tubercular character.

The astonishing success obtained by Rokitansky in Innsbruck, in treating phthisis with inhalations of a solution of benzoate of soda, induced Guttman to test the efficacy of the remedy; 3 of the 15 reported cases from Innsbruck, were said to be almost in a dying condition when the treatment was instituted and were discharged entirely cured; 2 of the patients were free from fever in a week already and the 3rd one in ten days; at the same time their weight increased rapidly.

Encouraged by these experiences Guttman selected for his experiments advanced cases of phthisis, and supposes that a treatment of three weeks duration must be sufficient to form an opinion about its value. The experiments with benzoate of soda were tried on 31 persons, their ages ranging from 17 to 56 years. In the majority of these the disease was far advanced; especially were such patients selected who showed a decidedly hectic type, low temperature in the morning, high temperature at night, or such who showed a certain uniformity in their temperature, presuming that the benzoate of soda, under such circumstances, had the best chance to show its efficacy.

Fifteen of the thirty-one patients used the treatment for three weeks, the others for a shorter period. Out of the whole number 9 died, 2 requested to be discharged, the rest remained yet in the hospital.

Not in a single case, not even in the patients who daily inhaled 2 pounds of the solution (solution containing 5 per cent of benzoate of soda) was the temperature reduced to the smallest extent; neither when the remedy was given internally at a dose of 2 drachms a day.

On the weight the remedy did not show any influence, in most of the patients there was noticed a progressive decrease in weight, in the same way as before they were using the inhalations. As a matter of course, neither fever nor weight being influenced by the benzoate of soda, the local—stethoscopic—conditions remained unchanged.

According to Guttman's experiments not a single symptom in phthisis was improved. At times the inhalations produced nausea and vomiting; 2 patients got hæmoptysis, which possibly might have been caused by the fatiguing process, as they had not had any hæmoptysis for a long time previously.

These being the results of experiments pursued for 3 weeks, it is difficult to understand how the opposite results have been obtained in Innsbruck. According to the above, Guttman is satisfied that benzoate of soda is entirely inefficacious in phthisis.—(*Berliner klinische Wochenschrift*).

## OXALATE OF CERIUM AS A COUGH REMEDY.

[*Medical Record.*]

Dr. Andrew H. Smith, chairman of the Committee on Restoratives, New York Therapeutical Society, at the meeting held April 9th, 1880, reported cases illustrating the different degrees of success obtained in the use of the oxalate of cerium in the treatment of cough. The report was based upon eighty-four cases furnished by reliable observers.

Dr. Cheesman, had used the remedy in hospital practice from July 1st to November 1st, 1879, allowing it to take the place of all sedatives, including opium, in the daily average of *phthisis* patients. It was uniformly administered in the form of dry powder, and notes were taken in 69 trials. In 39, marked relief followed; in 19, the cough was moderately relieved, and in 11 no relief whatsoever was afforded. The 11 cases where the remedy was inefficient, 9 were in the third stages of the disease, and in 8 the Philadelphia preparation was used. In all the cases where the cough was relieved Merck's oxalate of cerium was used. The drug was given, as a rule, two or three weeks, and often intermitted to test its efficacy. Five grains were given on waking in the morning and at bed time as the average dose; occasionally a dose of five grains in the middle of the day was given with marked benefit. Dr. George Bayles also reported his observations; in addition to the benefit derived in phthisical patients he had experienced benefit from its use in whooping-cough. It produced no bad effects on the stomach.

The conclusions reached by the committee were the following:

1. Oxalate of cirium could be safely administered in doses of 10 grains, three times a day, for many days in succession.
2. The only unpleasant symptom, when so used, was slight dryness of the mouth that appeared after several days.
3. It was probably the most efficient when administered dry on the tongue.
4. Its effects were not produced until two or three days after its use was begun, and lasted two or three days after the remedy was discontinued.
5. It was most efficacious in the treatment of chronic cough, and the initial dose should be 5 grains.
6. In the majority of cases it had not proved an efficient cough medicine for any considerable length of time, but could be regarded as a valuable agent to be employed in alteration with other remedies. .

7. It did not disturb the stomach; on the contrary, it relieved nausea and improved digestion.

8. Different preparations upon the market were not equal in value; and when success was not obtained by one, another should be substituted.

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## HYDROBROMIC ETHER.

Dr. Lawrence Turnbull, in *The Medical and Surgical Reporter*, contributes a very thorough article on the new anæsthetic. The following conclusions are arrived at.

1. That hydrobromic ether is an anæsthetic which, with care, may safely be administered to man and animals.

2. That hydrobromic ether is more rapid in producing anæsthesia than even chloroform, and is eliminated, by respiration and the kidneys, more rapidly than any other of this class of agents.

3. That the heart and respiration are but very slightly affected unless employed in excessive quantities.

4. Vomiting is more rare than with ether or chloroform.

5. That owing to its oder being more rapidly removed, it can be used with comfort in a private office or the patient's chamber; and as a rule, the odor is more agreeable than that of ordinary ether.

6. Hydrobromic ether not being inflammable, and producing its anæsthetic influence on the muscles of the throat, any operation can be performed on the mouth and throat with satisfaction to the surgeon and comfort to the patient.

7. In vivisections it acts more promptly than ether upon animals, requiring, as a rule, only two minutes to bring a dog under its influence, and is not fatal, like chloroform.

How often was there nausea or vomiting during the use of hydrobromic ether? In one hundred cases there were twelve cases of slight nausea after the operation, and eight cases of vomiting during the operation, but always when the patient had partaken freely of food of a solid character just prior to the use of the anæsthetic.

*Asphyxia.* This disagreeable and painful symptom was not noticed in any of the cases.

*Fainting.* In no instance was there any evidence of fainting.

*Hysterical excitement.* This was noticed in some six cases, but soon passed away, leaving no bad symptoms.

*Prostration.* In four cases was there some prostration, evinced by cold moisture on the hands and face, but of very short duration.

*The rapidity with which patients come under the anæsthetic influence of hydrobromic ether:* Ten cases in one minute and a half, twenty in two minutes, ten in two minutes and a half, forty in three minutes, ten in four minutes, and ten in five minutes.

*How long did it take to recover consciousness from the effects of hydrobromic ether?* In fifty cases from two minutes to two minutes and a half; in thirty cases three minutes; in twenty cases four and a half to five minutes.

Struggling, coughing or gagging, which occurs so frequently during etherization, was very rare under the anæsthetic influence of hydrobromic ether. This form of anæsthetic is not apt to produce headache. No giddiness attends the use of hydrobromic ether.

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## BURNS AND SCALDS.

The *Allgemeine Wiener Zeitung* says one of the best but least known agents is oil of peppermint. Applied by pencil or cloth to the wound, it gives prompt ease from pain and leads to a rapid cure without scars. This oil should always be kept on hand. Previous to its application the burnt part may be kept under water. It is sometimes advisable to dilute it one-half with glycerine. In this form it is an excellent application to frozen extremities.—*Canadian Journal of Medical Sciences.*

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## NOTES.

Keith, of Edinburgh, has performed ovariotomy seventy times in succession without a fatal result, and one hundred times with only three deaths.

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## THE HYPODERMIC INJECTION OF QUININE IN PERNICIOUS MALARIAL FEVER.

Translated by Dr. Charles Fayet, Paris.

In answer to my special inquiries about the method in use among Roman physicians, in the treatment of a case of pernicious fever, by means of the hypodermic injections of quinine, I received the following details from Dr. G. Petacci, physician of the hospital of Zoccoletto in Rome, one of the physicians of the late Pope Pius IX; details which were of such interest and value to myself, that it is with true pleasure I communicate the same to my fellow practitioners of the South.

I translate from the Italian:

"When I am called to treat a case of pernicious fever by means of the hypodermic injections of bi-sulphate of quinine, I use a solution in the proportion of one to ten of distilled water, without the addition of any acid. The bi-sulphate dissolving, as you well know, in distilled water. With this solution, consecutive suppurations are not to be feared. As soon as the pernicious attack begins to decline, I practice the injections, using a solution of 2 grammes of bi-sulphate of quinine in 18 or 20 grammes of distilled water (40 grains of quinine bi-sulphate in ʒvj water). If I am sure to have sufficient length of

time, I inject this solution at two different times more or less distant, otherwise (as I always prefer), I inject at once the whole solution above given. Moreover, if during the apyrexia the patient can swallow, I add a few doses of sulphate of quinine by internal use; if not, after a few hours' interval I practice other small injections, 60 centigrammes (12 grains) at a time, for example. But, if I have no certain indications that the first injection has been absorbed, or if the attack has threatened narrowly the life of the patient, I repeat these injections in larger doses.

"In order to avoid so many perforations of the skin, each time I introduce the canula, I inject through it successively three syringefuls, injecting slowly, not to produce too much irritation and to render the absorption more easy.

"The regions I select are the gastric and epigastric; and having a great number of perforations to make, I extend the punctures all over the abdomen. It seems to me, that in these regions, not only the absorption may be more easy, but that, also are avoided so many inconveniences and serious consequences which, too often I have seen follow in other parts."

Dr. Petacci, writes that last autumn cases of pernicious fever of the most varied forms were rife in Rome and neighboring country. I believe Roman physicians use this term pernicious fever more commonly than we do. If I understand aright, all cases of malarial fever which terminate fatally in a short time, all cases accompanied from the first, by uncommonly serious symptoms, be they ataxic, algid, apoplectic, comatose, soporose, congestive, hæmorrhagic, choleric, dysenteric, pneumonic, etc., receive the common appellation of pernicious, would only be excepted cases in which the complication takes the lead, such as pneumonia, etc., and deaths from malarial cachexia and its complications, diarrhœa, etc. etc.

In this letter of Doctor Petacci, I call special attention to what seemed to me the extraordinary doses of quinine used hypodermically and to the fact that these injections are not followed in the experience of Dr. Petacci, by consecutive suppurations or any other serious consequences, if the proper solution of bi-sulphate is used and the gastric region selected. Allow me to terminate with the motto, which the physician should always bear in mind: "Of two evils," but "that's the question!"

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## TWO CASES OF POPLITEAL ANEURISM CURED BY ESMARCH'S BANDAGE.

Mr. C. Heath read this paper. The first patient was a coal-miner, aged 32, with a small popliteal aneurism. Flexion of the knee having been tried without effect, Esmarch's elastic bandage was applied below the knee, and an elastic bandage

and cord above the knee, so that the sac was kept tense with blood and pulseless. This was borne for one hour without anæsthetics, and for two hours under the influence of bi-chloride of ethylene, and at the end of the three hours the sac had become solidified. The patient had been exhibited to the Society at a previous meeting, and had now gone home to Wales. The second patient was a potman, aged 37, with a small popliteal aneurism, presumably tubular. Esmarch's bandage was applied above and below the knee; but it was noted that, though pulsation was arrested, the sac was not rendered so tense as in the former case. On removal, after three hours, pulsation returned as strongly as before. Digital compression of the femoral was then maintained for three hours with marked effect, but without curing the aneurism. A second application of Esmarch's bandages rendering the sac tense, and producing local ecchymosis, was successful in stopping the pulsation permanently. Mr. Heath laid stress upon the importance of putting no pressure upon the aneurism itself, and of keeping it tense with blood in order to induce coagulation of the contents of the sac.—*British Medical Journal.*

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### TREATMENT OF METRORRHAGIA BY INFUSION OF BLACK COFFEE.

Dr. Desprès (*Abeille Médicale*) recommends the use of this method, which he says has succeeded with him already in three severe cases. The first was a case of a metrorrhagia following confinement, which had resisted all the ordinary methods. The second was a case of metrorrhagia due to anæmia. It had equally resisted all treatment. The third case was observed in a young woman, aged 26, subject to metrorrhagia, recurring every fifteen days and lasting eight days at a time. Rest in bed and cold compresses had not produced any result. Desprès gave from three to six cups of strong coffee daily. In this dose it produced agitation, sleeplessness, sometimes even a sort of intoxication.—*London Medical Record.*

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### NICKEL PLATING WITHOUT A BATTERY.

The *Engineer* publishes Prof. Slatba's new unpatented process for nickel-plating in the wet way without the use of a battery. To a dilute solution of chloride of zinc (5 to 10 per cent.) enough nickel sulphate is to be added to impart a decidedly green color to it, and the solution is then to be heated to boiling in a porcelain vessel. The clouding of the liquid from the separation of the basic zinc salt need not be heeded as it will not interfere with the effectiveness of the bath. The articles to be nickel-plated are first freed from oxide or grease, and then suspended in the solution from 30 to 60 minutes, the bath being kept at a boiling temperature. When the articles

are observed to be uniformly coated they may be removed, washed in water, in which a little chalk is suspended, dried, and finally polished with chalk or other suitable material. By the substitution of a cobalt salt instead of nickel, objects may be similarly coated with cobalt.

## EXPERIMENTS UPON THE STRENGTH OF ANTISEPTICS.

By ARTHUR T. CABOT, M. D.,

Surgical antiseptic preparations may be divided into two classes: (1) those which are meant to be actively destructive to the lower organisms which cause putrefaction, and (2) those which oppose the approach of these organisms to wounded parts already aseptic. Among the first class are to be counted the solutions for washing parts to be operated on, for cleansing wounds already exposed to the air, and for furnishing an antiseptic shower (spray) over wounds during operation and exposure. The second class comprises the gauze and cotton and the various oils and salves used to protect wounds from the action of the septic organisms in the air.

It is with the antiseptics of the first class, with the actively destructive antiseptics, that this paper has to do. Preparations of this class to be effective must act quickly. Whether they be used to destroy the putrefactive germs in a wound long exposed to the air, or those just settling out of the air upon a fresh wound, they have but a short time during which they can act with their full vigor, being in either case rapidly diluted and neutralized by the blood and exudations from the wounded surface.

The power of an antiseptic solution is usually tested by immersing in it some putrescible substance,* or by adding it to a sugar solution into which a ferment is also introduced† and then noticing its effect in hindering putrefaction and fermentation. These tests are defective in that they give us no idea of the rapidity of action of the antiseptic. Further, the more volatile antiseptics, which, on account perhaps of their volatility, are rapid in their action, after destroying the germs existing in the fluids would escape, leaving the solution exposed to the germs of the air, while those of less volatility and slower action would offer a much longer protection and might well be used in the protective preparations of the second class. Another not uncommon test for an antiseptic is the observation under a microscope of its power of arresting the movements of the bacteria in a foul solution.‡ We have, however, no proof that the activity of the bacteria is a measure of their power of exciting putrefaction, and many quiet forms are capable of

* Billroth, Untersuchungen ueber Coccobacteria septica, page 205.

† Dr. L. Lewin, Das Thymol, ein Antisepticum und Antifermentativum, Virchow's Archiv, B. 56, S. 164.

‡ Billroth, loc. cit., page 210

inducing fermentative changes. In endeavoring to apply this test, too, I have found the active movements of the bacteria checked by solutions so dilute that little or no destructive antiseptic action could be claimed for them.

Finally, the clinical trial of an antiseptic, though it will lead finally to a tolerably correct appreciation of its worth, is a slow and uncertain means of judging, involving as it does so many varying conditions.

The method which has been used in the following tests avoids, I think, the objections which may be made to all of these. It is as follows:—

Ten cc. of the antiseptic to be tested are added to three cc. of a foul solution. After a certain measured time, two drops of the resulting mixture are transferred to an aseptic solution, which is carefully protected from the air, put aside, and watched for the first evidences of putrefaction. Suppose the putrefactive elements, be they bacteria or chemical ferments, have preserved their vitality during this time of contact with the antiseptic; they are released from further antiseptic action when these two drops mix with, and are diluted in, the aseptic solution, and are then free to set up putrefactive changes in it. If, therefore, putrefaction appears in the test solution, we know that the antiseptic had not acted long enough upon the germs of putrefaction to destroy them. We repeat the experiment with a longer time of exposure, and so proceed till we reach the time that proves sufficient for the destruction of the putrefactive elements, and we then find that the aseptic solution continues clear and sweet. The sign of putrefaction which was relied upon in these experiments was the appearance of cloudiness, due to the presence of micro-organisms, and their presence or absence was always verified by the microscope.

I have prepared a table of these "personal equations" of a few of the better known antiseptics. Before giving it, however, I will detail briefly the minutiæ of the tests of which I have described the general features and objects.

The aseptic solution is prepared by boiling several small pieces of meat with a large quantity of water in a glass flask purified by exposure to the flame of an alcohol lamp. This flask is stopped with a rubber cork perforated by two glass tubes for convenience of decanting. The tubes are bent downwards, and the ends are carefully protected with carbolized gauze. The cork and tubes are carefully cleansed beforehand with carbolic acid. The resulting solution, if made with lean meat, settles clear; if the meat is fat, the solution is rendered cloudy by fine oil drops, and must be prepared again.

This solution when used is decanted into wine-glasses previously cleaned by exposure to alcohol flame, and these are then covered with inverted watch-glasses, and the whole by bell-glasses, all of which have likewise been exposed to high heat.

The solution thus protected will keep for an indefinite length of time without a sign of putrefaction.

It is into glasses thus prepared that the minute quantities of the mixed antiseptic and foul solution are transferred, and in them the minutest changes in the fluid can be easily observed.

To anticipate some of the objections which may be made as to the accuracy of these experiments, I would say that I expected to meet with great inconsistencies in my results, due to the accidental entry of germs into my test glasses. Contrary, however, to this expectation, my results were very uniform and constant, although the experiments were distributed over a space of two years. In each case the result obtained was verified by several additional experiments.

Of the antiseptics examined the rapidity of action ("personal equation") was determined as follows:—

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| Acidi carbolici | 1–20* | 5 seconds. |
| Liquor sodæ chlorinatæ | 1–10 | 15 30 seconds. |
| Acidi salicylici | 1–240 | 3 minutes. |
| Thymol | 1–500 | 3 minutes. |
| Thymol | 1–1000 | 4 minutes. |
| Acidi carbolici | 1–40 | 4 minutes. |
| Potas. permang | 1–960 | over 6 minutes. |
| Zinci chloridi | 1–12 | over 6 minutes. |
| Alum acetatist | | over 6 minutes. |

It will be seen by this table that carbolic acid in the strength of one part to twenty of water is almost instantaneous in its action. At least five seconds are required for the thorough mixing of the acid with the foul solution, and after this the resulting mixture is incapable of exciting putrefaction.

Next to this in efficacy comes the solution of chlorinated soda, made by adding one part of the liquor sodæ chlorinatæ to ten parts of water. This I found remarkably certain in its action.

Of the action of salicylic acid I would say that it was extremely uncertain. Some specimens of the acid seemed wholly destitute of antiseptic power. The result recorded above was obtained with the best of a number of samples procured from different reliable druggists.

The solution of this strength could only be made by the aid of a small quantity of alcohol. Salicylic acid is said to be soluble in three hundred parts of water, but many trials showed that this solution was impossible without the aid of heat, and that part, at least, of the acid crystallized out in two or three days.

Although thymol in solution of one part to one thousand of water is equally effective with carbolic acid one to forty, yet the solution of double this strength, made with the addition of a little glycerine and alcohol, falls far short of the stronger preparation of the rival drug.

Permanganate of potash was noticed to effect the destruction of the minuter organisms in a comparatively short time (three to four minutes), but some large forms of penicillium (among

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* The numbers in this table indicate the parts of water to one part of the antiseptic.

† Preparation recommended by Mr. Paul Burns in London Medical Record, April 15, 1879, page 168.

other penicillium glaucum) resisted its action for a much longer time.

Lastly, I would notice the inefficient action of chloride of zinc, which many distinguished surgeons* have preferred to any other preparation for cleansing deep wounds long exposed to the air. I can only surmise that the action on which its reputation is based is upon the tissues themselves rather than upon the organisms, and that it closes the channels of absorption against the entry of septic poisons much as a light cauterization with nitrate of silver does.

I am led to conclude, then, that of the preparations examined the five per cent. solution of carbolic acid is the most proper to use when a rapid action is desired, notably in the shower or spray thrown over a wound during operation and dressing.

When carbolic poisoning is feared or already present, the solution of chlorinated soda is by far the most powerful substitute that can be used. The rapidity of action of this latter antiseptic renders it well adapted for use as a gargle in diphtheria, or as a mouth wash when a foul discharge is present.

When a strongly antiseptic action is not required, as in washing a wound successfully aseptic, or when long contact of the antiseptic with the wound is probable, as in washing out a cavity with a continued current, some of the milder antiseptics may be safe and agreeable substitutes.

Some preparations clinically ranking as antiseptics owe their reputation to other powers than that of destroying septic material.—*Boston Med. and Surg. Jour.*, Nov. 25.

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## NOTES ON CYSTORRHAGIA FROM RETENTION OF URINE.†

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When hemorrhage occurs from the mucous membrane of the bladder, the word cystorrhagia should be used in preference to hæmaturia, since the latter has a wider significance; being applied alike to the passage of bloody urine from the kidney, from its pelvis, from the ureter, the bladder, or the uretha. Cystorrhagia may occur as a consequence of disease, of injury, or of the too precipitate evacuation of an over-distended bladder. It is of the last-named cause that I now wish particularly to speak.

Civiale regards over-distention of the bladder as "the most common of all the causes of hæmaturia." This excellent observer says‡ "that when hæmaturia depends upon over-distension of the bladder by the accumulation of urine or by a forced injec-

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*Lister, Volkmann, and others.

†Read before the Medical Society of the State of New York, February, 1880.

‡Maladies des organes génito-urinaires, vol. iii., p. 360.

tion, the blood seems to ooze indistinctly from every part of the mucous surface," but he does not explain the mechanism of this general oozing. Nor does Mercier, or any other author with whose works I am familiar, appear to solve the problem. I believe that generally there is no hemorrhage as long as the bladder remains distended; but the moment the distention ceases,—either by rupture of this viscus or by the too precipitate withdrawal of the urine or water through a catheter—the oozing begins, and this is due to rupture of thousands of the capillaries of the mucous membrane, owing to a sudden change in their condition. For in such over-distention of the bladder, the mucous membrane as well as the muscular coat is greatly over-stretched, its capillaries are likewise stretched and weakened in consequence. When, therefore, the mechanical support given by the accumulated urine is suddenly removed, the extreme tension of the vesical parieties is succeeded by extreme flaccidity; the almost empty capillaries are instantly gorged with blood, and their delicate walls give way before the sudden impulse of the refluent blood, which soon begins to ooze from thousands of minute rents of the mucous membrane.

It is well known that free hemorrhage often succeeds the escape of pus from large, tense abscesses that have been hastily emptied; and this phenomenon has generally and correctly been attributed to the too sudden removal of the pressure exerted by the pus upon the small vessels which lie almost naked on the wall of the abscess. If this be true here, why not so in a diseased bladder? The analogy is perhaps greater in those cases where hemorrhage has occurred from the surface of smooth membranes, such as that of the tunica vaginalis, after the sudden evacuation of large hydroceles, or as that of cysts of inordinate capacity which have been incised or tapped. The general oozing of blood, which sometimes occurs from the surface of a diseased peritoneum after ovariotomy, furnishes another illustration.

Since writing the above, I had occasion to read Horace Stapfer's thesis on vesical hæmaturia caused by tuberculization,* in which he credits Civiale with being the first to call attention to retention of urine as a cause of hæmaturia, but he says that "Civiale does not explain the mechanism of hæmaturia caused by retention of urine," * * * and asks, "could it not be attributed to the sudden disparition of the pressure which the urine exerted upon the parieties of the bladder, similarly to the phenomenon observed after puncture of certain cysts of the thyroid body?"

I wish to be clearly understood as not claiming that hemorrhage invariably, though I believe it frequently, follows the precipitate evacuation of the over-distended bladder, for I have, on several occasions, suddenly withdrawn as many as

*Paris, 1874. pp. 8, 9.

four pints, and have read of one, and even two gallons being removed by the catheter without subsequent hemorrhage. The hemorrhages in question occur usually in middle and advanced life, especially where the vesical mucous membrane is not absolutely healthy, and in those patients whose blood-vessels are already weakening. Cystorrhagia from over-distention is very uncommon in young adults and adolescents, and of extreme rarity in children.

The explanation of cystorrhagia just given is applied more particularly to bladders which are not much altered by disease; but I have no doubt that hemorrhage does occur from distention of certain diseased bladders the moment the distention takes place, and this is shown in the first urine that appears, whereas, in the class of cases before mentioned, the first urine drawn is clear and entirely free from blood. In several such cases which Civiale cites he only incidentally states that the first urine expelled was always clear, and that blood appeared the next time the bladder was emptied. It is evident, in those cases, that the blood began to ooze only after the removal of the pressure exerted upon the capillaries by the urine. Mercier* makes a statement which corroborates this view; he says, "often two-thirds or three-fourths of the urine contained in the bladder come out free from blood, and it is only toward the end that the fluid appears redder and redder;" and he further says that "this appearance has been wrongly ascribed to the precipitation of blood in the *bas fond*." He himself attributes the hemorrhage to the action of the muscular coat of the bladder, which, he says, fairly squeezes the blood out of the congested mucous membrane like water squeezed out of a sponge. Unfortunately for this theory and for patients, the very reverse of contraction too frequently follows the sudden evacuation of the bladder. If powerful contraction could always follow the precipitate evacuation of the over distended bladder, there would be no hemorrhage, or, if any occurred, it would soon cease, in consequence of this contraction of the muscular coat, and of retraction of the mucous membrane, and of its underlying connective tissue.

In chronic cystitis with sclerosis of the mucous membrane, retention of urine, giving rise to comparatively little distention of the bladder, will cause hemorrhage from cracking or tearing of the unyielding mucous membrane, and the first urine drawn will be bloody. Hemorrhage doubtless follows distention from accumulation of urine in other diseased conditions of the bladder, such as papillomatous, tubercular, or cancerous degeneration, etc.

A word here concerning diagnosis may not be out of place. The main point is to determine whether or not the hemorrhage be cystic, for the bladder may become filled with blood which

*Recherchos anatomiques, pathologiques, etc. Paris, 1844, p. 141.

has come from another source. For instance, there may be free bleeding from the kidney (nephrorrhagia), due to a laceration of this organ, to a vascular cancer which has finally involved its pelvis, to tubercular disease; or, the hemorrhage may be owing to extreme congestion, as that occurring after the ingestion of certain poisons—among others phenic acid; or, from prolonged exposure to the fumes of turpentine—on turpentine ships or in shops. Within a couple of years I have had two cases of hæmaturia, whose diagnosis was cleared by a few questions. Both men were workers in a varnish factory, and, for several weeks, had been passing bloody urine. They were advised to stop work, and, in a short time after, the urine became clear. My attention was called to this action of the fumes of turpentine many years ago, by the late Dr. Charles E. Isaacs.

There may be from the pelvis of the kidney very abundant and continuous hemorrhage. When this pyelorrhagia is the result of cancerous degeneration, it will not be long before the diagnosis is verified by an autopsy; but when it arises from other causes, such as parasites, it may remain obscure for a long time, if not altogether, unless careful and frequent microscopic examinations of the fluid be made. In other cases the diagnosis may be easy. One of my patients almost always, after drinking one or two glasses of champagne, suffers from hæmaturia (probably nephrorrhagia or pyelorrhagia) for two or three days, and, in the very bloody urine that he passes, is able to collect fifty or sixty round uric acid calculi, the largest of which scarcely exceeds in size an ordinary pin's head. The hemorrhage may be from the ureter (ureterorrhagia), and may be caused by a rough calculus during its transit from the renal pelvis to the bladder. The urine passed by such a patient sometimes contains long, leech-like clots, and this fact, taken in conjunction with the general symptoms, leaves no doubt as to the origin of the hemorrhage. In a case of very persistent hæmaturia, I was able to determine the source of the hemorrhage from the several circumstances presently to be stated. The first was, that no retention of urine had occurred; the second, that the urine ordinarily contained at least two-thirds blood; the third, that it was at times perfectly clear; the fourth, that the hemorrhage would be preceded by a very distressing ureteric and pyelic colic on the right side; and the fifth, that the urine frequently contained firm bdelloid clots five or six inches long. These facts, together with the existence of a tumor in the right flank, led me to regard the case as one of ureterorrhagia, due either to an impacted calculus, or to malignant disease. The patient died in the course of a few months, and the autopsy revealed a very vascular, primary cancer of the right ureter, a little above its middle.

I have said that the bladder may be rapidly filled by blood coming from some one of the sources before named, but if the

blood does not as rapidly coagulate, it will be expelled; and if by good luck its flow into the bladder be checked, as was shown in the case of cancer just mentioned, by impaction of a clot in the ureter, there will follow ureteric and pyelic colic, and while this lasts the urine secreted on the sound side—at first tinged by the little blood remaining in the bladder—will come away clear, and as soon as the impacted clot is dislodged and carried into the bladder, the urine will again be bloody. It may be proper to syringe out the bladder during the ureteric colic, in order to wash away the remaining blood,—then if the water afterward injected comes away clear, it is reasonable to suppose that the hemorrhage is not cystic.

But if the hemorrhage has been so abundant as to cause great distention of the bladder, with clots, the case will be attended with a two-fold danger, and the prognosis may be unfavorable; for if then the distended bladder be suddenly evacuated, there will probably be hemorrhage from its mucous membrane in addition to the bleeding which may have come from the ureter, renal pelvis, or kidney. When all the sources of hemorrhage already indicated have been excluded, and the loss of blood is not from the urethra—(urethral hemorrhage can be at once diagnosticated by passing a catheter into the bladder. If, after the first ounce or thereabouts, the urine drawn be limpid, it is certain that the blood which had previously escaped had not come from the bladder. In some cases of hemorrhage from the deep urethra, the blood often enters the bladder, but this is easily made out)—then its vesical origin is fairly established.

Cystororrhagia is known to occur from ulceration of the bladder, from injuries inflicted by the movements of a calculus, from some forms of acute and chronic cystitis, from the perforation of small veins by certain parasites, from tubercular or cancerous disease, from papillomata, and from violence; but in the class of cases under consideration, retention of urine is its principal factor in certain instances of diseased, while in comparatively healthy bladders, or in the atonied bladders of elderly men with prostatic enlargement, its most frequent exciting cause is the sudden withdrawal of the urine by which the organ had been greatly over-distended.

The first urine drawn, as before said, is usually clear and free from blood, the second is blood-red; afterward it grows dark and dingy, until it becomes chocolate-colored, and finally assumes a tarry appearance and consistency, and acquires a disagreeable odor similar to that of decayed, dried codfish. These changes in the character of the blood are due partly to the action of the urine, partly to the admixture of mucus, of which there is hypersecretion, and to the development of ammonia. In such cases the effusion of blood is considerable, but not always sufficient for the formation of coagula; for as long as there is a fair proportion of urine, no coagulation takes

place, but when the flow is rapid and exceeds the urine in amount, the bladder will soon be filled with clots, even to great over-distention. Cystorrhagia may last from a few hours to two or even three weeks if not checked by appropriate treatment.

The constitutional effects will of course, depend upon the previous physical condition of the patient, the amount of blood lost daily, and the extent and severity of the ensuing cystitis. Prompt and intelligent interference will soon arrest the bleeding and generally save the patient. The danger to life is not so much from the severity of the hemorrhage as from the extent of injury to the capillary vessels and mucous membrane. What is here most to be dreaded is the supervention of general cystitis, which is so apt to be followed by double ureteritis and pyelonephritis. When these complications have occurred there is oliguria, then anuria, which is soon followed by a typhoidal condition, with low muttering delirium, and death, all within a week or ten days after the first evacuating catheterism that had given issue to three or four pints of clear urine.

Perhaps the recital of the history of a typical case of cystorrhagia from the too precipitate evacuation of a distended bladder, taken from my note-book, will illustrate several important points that I may have failed to make plain.

On September 2, 1875, I saw, in consultation with a medical gentleman, in a neighboring city, Mr. S. B., aged sixty-three, who had "for ten years suffered more or less from his bladder,' and had had occasional attacks of retention of urine, all owing to prostatic enlargement. Two years before our interview he had a retention of urine, relieved by the catheter which caused considerable urethral, but no vesical hemorrhage. On the evening of August 23, 1875, while sitting upon the stone steps in front of his house, he felt chilly, but thought little of this and went to bed at his usual hour. On rising in the morning he experienced trouble in voiding his urine, and was finally unable to pass a single drop. His bladder having become painfully distended in the course of twenty-four hours, he summoned his physician who relieved him at once, by the catheter, of about three pints of clear urine. A second catheterism, on the same day, gave issue to bloody urine, and from that time all the urine drawn off was highly charged with blood. On account of the persistence of the hemorrhage, the doctor requested me to see his patient. When I arrived at the house (at 3 p. m.) I found Mr. B., a pallid, slender-built man, walking the floor nervously, and in great agony from distention of the bladder, though the doctor had drawn off his urine in the morning. His general condition was fair, and he had had no febrile reaction for a week. On digital examination per rectum, the prostate was found tumid but not very large. A metallic catheter of short curve, similar to Mercier's, encoun-

tered a medium prostatic obstruction, which was easily surmounted. A soft rubber Nélaton catheter, which was then introduced, gave issue to a pint and a half of fetid, thick, alkaline, tarry fluid, consisting of about an equal amount of blood and urine, but the blood was thoroughly mixed with the urine and there was no coagulum. I expressed the opinion that the blood had probably oozed out of numerous minute vessels from a considerable extent of the vesical mucous membrane. The doctor said that, at first, the hemorrhage was much more profuse, and that there were clots which frequently closed the eye of the catheter. Inasmuch as the bleeding had thus far been kept up by the frequent distention of the viscus, I suggested, as the prime indication in the case, complete drainage of the bladder for, at least, twenty-four hours. This was affected by introducing, and retaining in position, a gum-elastic Nélaton catheter. An occasional vesical injection of two ounces of weak tannin solution was also advised, likewise ice in the rectum, absolute rest in the recumbent posture, and twenty-grain doses of quinine dissolved in dilute sulphuric acid. The doctor had already given twenty-minim doses of fluid extract of ergot, and I advised their continuance. He had also irrigated the bladder with salicylic acid solution, with the effect of deodorizing the urine temporarily. From the time I introduced the catheter no more urine was allowed to accumulate in the bladder, and the blood was frequently washed away with the styptic solutions. This course of treatment had the effect, within two days, of arresting the hemorrhage and of controlling the consequent cystitis. I saw the patient in the course of two months, when he said that he felt as well as usual. Three years after, he had had no recurrence of hemorrhage.

### PREVENTIVE TREATMENT.

If sufferers from prostatic and vesical trouble were always under the watchful eyes of intelligent physicians, their bladders would not be permitted to become over-distended, and this one cause of cystorrhagia would not exist. But as over-distention now occurs so frequently, let us see in what way relief may be given and cystorrhagia prevented.

Nothing can be more simple; the bladder should be emptied very gradually in the course of twelve, twenty-four, or forty-eight hours, and in certain extreme cases, even several days (as suggested by Sir Benjamin Brodie).* One of the ways of accomplishing this is to introduce a soft catheter and secure it in position, then allow the urine to trickle through it slowly by partially obstructing† the distal orifice with a finger, so that in the course of five or six minutes not more than eight ounces will have escaped; and to repeat this every two hours

*Brodie: Lect. on Dis. of Urinary Organs. London, 1835, p. 161.

†Civiale.

until the bladder is emptied. If the urine drawn be very fetid, the process should be modified as follows: immediately after drawing the first half-pint of urine, eight ounces of warm water, in which has been dissolved a scruple of biborate of soda, should be injected into the bladder, then a pint of urine drawn, and at once half a pint of borax solution thrown in. This should be repeated at the first sitting six or eight times, or until the whole of the offensive urine is gotten rid of, and the bladder contains nothing but the clear borax solution; then every two hours, and in some cases even every three hours, half a pint of the fluid—now mixed with newly secreted urine—should be drawn off, until the bladder is completely empty. In this way a bland fluid will have been substituted for decomposed and irritating urine, the hydrostatic pressure will not have been removed too suddenly, and thus cystorrhagia will have been prevented.

Sometimes polyuria follows the first catheterism to such a degree as to make it necessary to draw off one instead of half a pint, and do this every hour instead of two hours, otherwise the vesical distention would be unrelieved. To illustrate this point, let me relate the history of a case of inordinate polyuria without glycosuria. I have never known a patient to secrete so much normal urine in the same space of time.

Mr. P. D., æt. 67, stout, weighing about 200 lbs., suffering from prostatic hypertrophy and stone in the bladder, was sent to me by a medical friend early in March, 1879. Mr. D. had, at different times, for a period of twenty years, passed gravel and also well-formed small uric acid calculi. He was subject to polyuria which would be caused by almost any diuretic. He could never take cider, ale, tincture of the chloride of iron, copaiba, or cubebs, without provoking great increase in the urinary secretion. For six consecutive weeks he passed four pints of urine daily, and for two additional weeks, six pints daily. At the end of that time—that is, March 1, 1878—his bladder became over-distended, and the urine came away guttatim. On this account he was catheterized, and three pints of clear urine drawn in the first hour at intervals of twenty minutes. The catheter was tied in position, and one pint of urine was drawn off every hour for twenty-seven consecutive hours, when the amount began to diminish until it was reduced to six pints every twenty-four hours. In the course of about three months it was gradually reduced to four pints, and so continued until March, 1879, when I relieved his bladder of the irritation which had been caused by several small stones. When he left the city, toward the end of March, he was making three pints of urine daily, and was in excellent physical condition.

### TREATMENT OF CYSTORRHAGIA.

When cystorrhagia has taken place, besides enjoining absolute rest in the horizontal posture, the surgeon should take

means to prevent the bladder from becoming distended with bloody urine. But if, when he arrives, he finds hypogastric dullness extending to or into the umbilical region, he should draw off, through a gum catheter, only a pint of urine, then throw in half a pint of the borax solution—as mentioned under the head of preventive treatment—and draw half a pint of fluid, and repeat the process until the fluid becomes clear, or nearly so. Afterward, every hour or two hours, the stopper of the catheter should be removed, and half a pint of fluid allowed to flow, until the bladder is completely empty. For that purpose, the catheter should be retained in position twenty-four hours, very rarely longer. This drainage alone will often have the effect of checking the hemorrhage, especially if the muscular coat of the bladder soon begins to regain its contractility, which can be sometimes hastened by occasionally throwing in two or three ounces of weak, cold watery solution of tannin, of alum, or of almost any other astringent. Ice in the rectum, applied according to the plan of Cazenave, is a valuable adjuvant.

The next indication is to guard against general acute cystitis, the supervention of which would be the most serious accident that could well happen in such cases, except, of course, rupture of the bladder.

Hemorrhage is more apt to recur in cases of pre-existing atony of the bladder. Therefere, it is important to begin to treat this atony as soon as the bladder has been emptied.

When cystorrhagia occurs in cases of cystitis, with sclerosis of the mucous membrane, whether the distention be caused by retention of urine or by a forced injection—which latter is sometimes used in their treatment—drainage is essential; no urine should be allowed to accumulate, and stypic injections in small quantities should be employed, and gallic acid, or some of the other hæmostatics, will be indicated. In such cases the hemorrhage is not usually abundant. The danger lies in the aggravation of the cystitis.

The most serious hemorrhages are those which occur from papillomatous or cancerous tumors. I have a specimen of the former, in which hemorrhage was the immediate cause of death.

Although so great an authority as Civiale seems to attach little importance to general treatment, I am sure you will agree with me that it has utility, and should not be rejected. I would recommend the exhibitin of ergot (15 to 20 minims of the fluid extract every two or three hours), or of gallic acid, dissolved in glycerine, or of quinine, with an equal quantity of dilute sulphuric acid, or of tincture of the chloride of iron, etc. All these medicinal agents have their value, and any one of them will often answer the purpose. But when the desired effect has been obtained, the dose should be reduced, and the medicine discontinued as soon as possible, otherwise the digestive organs will surely suffer.

When it happens, in cystorrhagia, that no fluid runs through the catheter after it has been successfully introduced into the bladder, it may be that a clot has become impacted in the catheter, or that the bladder is filled with coagula, and little if any urine.

What, in like circumstances, should be the conduct of the surgeon? He should withdraw the catheter, and if he find in it a clot, wash it out, or take a clean catheter and introduce that, and if there be fluid blood and urine, it will of course flow freely. But suppose the bladder to be filled with clotted blood, what then is he to do? In this there is a difference of opinion.

Chopart advises the injection of water through the catheter to break up the clots, and if they do not come away, to introduce into the distal end of the catheter the nozzle of a syringe with which to make aspiration of the broken-down clots, and cites several cases in which this was successfully accomplished. A number of his contemporaries had like successes. Howship, and also Sir Benjamin Brodie, advocated this process.

Phillips cites Leroy as having extracted a little more than four pounds of coagula from a man's bladder, with the aid of aspiration made through a catheter which he was obliged to introduce one hundred and fifty times in the space of six hours.

Though Civiale approved of repeated injections of warm water to soften or dissolve the clots, as recommended by Verdier, he condemned aspiration. Other modern surgeons are against aspiration of the clots, but their objections are not tenable. The principal objection made is, that the removal of the clots will excite fresh bleeding either by affording a cavity into which more blood may be poured, or by allowing the plugs to escape from the torn extremities of the capillaries. They also urge that the clots do no harm, and will, in a couple of days, be dissolved by the urine. It is a misapprehension of the true state of things that has led the opponents of aspiration to condemn this practice, inaugurated as it was by some of the best surgeons of the last century. Injections and aspirations properly done, cannot and will not give rise to fresh bleeding; it is the hasty removal of the contents of the bladder, as I think I have shown, that will provoke hemorrhage, and it is the very thing which every good surgeon should avoid. It is not good surgery to allow a bladder to become over-distended with blood and then to wait forty-eight hours for the urine to dissolve the clots, while the patient is in the throes of vesical distention and tenesmus. I think that in such a case the indications *for* mechanical interference are exceedingly plain. But, I repeat, the vesical contents must *never* be hastily removed, otherwise there will necessarily follow fresh hemorrhage. In endeavoring to free a bladder greatly distended with clotted blood which cannot pass through an ordinary catheter, the way to proceed is to use a soft catheter with one large eye, or a metallic Mercier catheter as large as can be introduced, then to

inject two or three ounces of warm borax solution (diluted acetic acid has been recommended for dissolving clots); if nothing flows, the instrument should be moved gently to and fro and rotated to the right and left so as to break up the clots; then aspiration made either with a syringe, as recommended by Chopart, or with Bigelow's rubber-bag. No attempt should be made to aspirate more than three or four ounces of clots, or grumous blood, at a time. The surgeon should continue, at the same sitting, to make alternate injections and aspirations, never withdrawing more than he has injected, so that the contents of the bladder will remain about the same, until all the blood has been removed and the returning liquid is nearly clear. After this, every hour or two hours, as the case requires, a few ounces, rarely more than eight, should be drawn off until the bladder is empty. Gallic acid or other agents can, in the meantime, be administered, and afterward the bladder may be irrigated with such astringent solutions as are necessary. I feel quite sure that such a course would not only prove efficient, but much safer than the expectant plan just referred to.

"When the coagula are not dissolved," says Paul of Aegina, "make an incision in the perinæum as in cases of calculus; and having removed the clots of blood, accomplish the cure in a proper manner." This operation of perineal cystotomy was revived by Larrey and others of his time, in cases where the clots were too dense to be broken up by the catheter. The operation is reported to have been performed under the auspices of Sir Astley Cooper, by Mr. Copeland Hutchinson, with the result of extracting a pound of coagula, but the patient died in three days. Civiale very properly condemns this heroic and ordinarily unjustifiable procedure, and suggests in its stead the employment of the lithotrite to break up the clot when it is too dense to be reduced by the catheter or aspirator.—*N. Y. Medical Record.*

## THE NEW ANÆSTHETIC—THE BROMIDE OF ETHYL.

By J. R. Levis, M. D.,
Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital.

It is generally admitted that there are essentials of anæsthesia which are not satisfactorily attained by the anæsthetics in ordinary use. The inconveniences of ether and the dangers of chloroform have suggested further inquiry among the large number of chemical substances which are capable of producing insensibility to the impression of pain.

In April, 1879, my attention was directed to the bromide of ethyl by Dr. Laurence Turnbull, of this city, who was, I believe, the first to experiment on the human subject with its anæsthetic properties, testing it originally on himself and afterwards on patients undergoing surgical operations, but its physiological action on some of the lower animals had been previously determined by other experimenters.

I have since that time continued to give practical attention to the subject of the anæsthetic use of the bromide of ethyl, and, whilst recognizing the fact that a very large number of administrations is essential to determine its merits comparatively with other agents, I have now had sufficient experience upon which to, at least, base some very decided impressions of its value.

Its principal physiological characteristics which will concern the surgeon are its rapidity of action and the quickness of recovery from its effects.

As far as observed by me, it does not influence the circulation, excepting to sometimes produce a slight increase in the rapidity of the heart's action and in arterial tension or pressure. The cerebral anæmia and the fatal syncope of cardiac depression to which chloroform is liable, are dangers which do not appear to threaten in the anæsthesia of the bromide of ethyl.

Respiration is but little influenced by the bromide of ethyl, as I have administered it, beyond the ordinary characteristics of all anæsthetic sleep; but in this respect its action seems more to resemble that of ether than of chloroform. While making these assertions, I fully recognize the fact that the ultimate effects of all anæsthetics show that they are depressing agents.

Nausea and vomiting appear to occur less frequently in the anæsthesia of the bromide of ethyl than in that of ether and of chloroform, and the rapidity of recovery from its effects must render such impressions very brief and transient.

Commencing with the occasional and very cautious use of the agent, I have more recently adopted it to the exclusion of other anæsthetics, and am recording a series of detailed observations as to its effects.

Bromide of ethyl, or hydrobromic ether, is a colorless liquid, with a specific gravity a little greater than that of water. It has a decided and characteristic odor, which is thought to resemble that of chloroform, but is less agreeable. It vaporizes more readily than chloroform, and in this respect and in density is intermediate between ether and chloroform. It seems to be entirely eliminated through the lungs, and in this regard has a decided advantage as to safety over chloroform. The high vaporizing point of chloroform does not permit a rapid elimination from the body, and it is not entirely removed by the lungs. So, when some secreting organ happens to be, from disease, incapacitated, the nervous system is liable to become overwhelmed. The odor of the bromide of ethyl remains for a longer time on the breath of a patient than does that of ether and chloroform, but it seems to be quickly dissipated from the apartment in which it has been used. Its vapor is quite unirritating to the respiratory passages when inhaled,

and in this quality has the advantage over both ether and chloroform.

General excitement and the tendency to struggle occur far less frequently than in the early stages of the anæsthesia of ether, and, apparently, even in that of chloroform. It is evident that the impression on the motor centres must be very rapid, and I estimate that complete anæsthesia is accomplished in one-third less time than is the case with chloroform. The recovery from its effects is even comparatively more rapid, in the greater number of cases the time not exceeding two minutes after the inhalation has ceased. The pupils dilate as soon as complete anæsthesia is induced, and, as the sentient state returns, they resume their normal condition. I suggest that the condition of the pupils may be an index and guide in the administration.

Anæsthesia with the bromide of ethyl is usually effected in from two to three minutes. The most rapid production of complete insensibility, in my experience, has been in one minute, in the case of a girl eight years old; the longest period has not in any case exceeded four minutes. When carefully administered, the quantity consumed has varied from one fluid-drachm in the case of a child, iridectomy being performed, to eleven drachms used during an amputation of the forearm of an adult, occupying forty minutes, including the ligation of the vessels and the dressing of the stump.

The quantity of the article consumed in effecting anæsthesia will greatly depend on the method and manner of using it. Much of it is, of course, wasted by diffusion in the atmosphere. With great regard for economy, this waste may be prevented by imperviously covering the material on which it is poured. My own plan, with adults, is to pour two drachms of the bromide of ethyl on a small napkin folded up to a space of about four inches square, and then laid on a larger napkin, folded so as to be large enough to cover the entire face of the patient. It is well to secure the two napkins together with a pin.

The vapor of the bromide of ethyl is not inflammable; indeed, when dense, it extinguishes a flame if brought into contact with it. In this respect it is free from the danger incident to ether when administered at night in proximity to lights, or when the actual cautery is used. The article used by me was made by the firm of Powers & Weightman, manufacturing chemists of this city.

The ordinary essentials of the proper and safe production of anæsthesia are required in the use of the bromide of ethyl. That these essential details are apt, through ignorance or carelessness, to be disregarded, every practical surgeon is aware, and the frequent difficulties and occasional calamities will attest. When it is stated that whole pints of ether, or many ounces of chloroform were used in the production of anæsthesia in a single case, he knows where was the fault. When it is asserted

that "ether would not act and chloroform had to be resorted to," he knows why it "would not act."

It is becoming evident that the dread of unavoidable disasters from chloroform and the inconveniences of ether are tending to prevent their humane administration in many cases where the blessing of anæsthesia is due to the sufferer. This is particularly so in localities where etherization, simple and safe as it is, seems strangely ignored. In a prominent French hospital I not long ago witnessed the application of the actual cautery and other painful procedures without the resource of anæsthesia.

Whilst feeling inclined to impress caution in regard to the use of so powerful an agent as the bromide of ethyl, I am, from a basis of experience, inclined to recommend its use to the profession.—*Phil. Med. Times*, Jan. 17.

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## SUCCESSFUL TREATMENT OF OBSTINATE UNUNITED FRACTURES BY TRANSPLANTATION OF OSSEOUS TISSUE.

This operation has been performed by Nussbaum, in Munich. He reports in Schmidt's Jahrbücher two successful cases. The first was that of an officer having a gunshot fracture of the right ulna, which healed with pseudarthrosis. The distance between the fractured ends was five centimeters. The radius was intact. The false joint were laid open. A longitudinal piece of bone from the upper fragment, sufficiently long to fill the space between the fragments, was cliisseled out and anteverted, without severing its periosteal connection, so as to touch the denuded end of the lower fragment. The wound was closed by sutures, and a fenestrated plaster of Paris bandage was applied. At first there was considerable reactive inflammation, in spite of which the uniting of the pieces of bone took place. Six weeks afterward there was very slight abnormal mobility, so that pronation and supination were yet difficult. One year after, however, the function of the arm was so far restored that the patient was able to resume his duties in the field. The second case was that of a builder, 27 years old, who had a compound fracture of the left ulna, twelve centimeters below the olecranon. The wound healed in a short time under Lister's dressing, but one piece of bone, three centimeters long, and several smaller pieces came out, leaving a pseudarthrosis about three centimeters in length, rendering the arm useless. The old methods of treatment were resorted to without avail. Finally the false joint was laid open and a piece of the upper fragment five centimeters in length bisected longitudinally and turned over without severing the periosteal connection at its lower extremity, and applied to the denuded surface of the lower fragment. A drainage tube was placed in the wound

and Lister's dressing applied. Sixty-seven days after the patient was allowed to make the first movements of pronation and supination, and four weeks later the arm was sufficiently strong to allow of his resuming work. This operation is mainly of use in cases of pseudarthrosis of the forearm in which only one bone is involved, and is preferable to resection.—*Chicago Med. Gaz.*, April 5.

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### ANTISEPTIC TREATMENT OF A BULLET WOUND PENETRATING THE KNEE-JOINT.

One of the most brilliant proofs of the advantage of antiseptic treatment is recorded by R. Volkmann in the Centralblatt für Chirurgie, No. 29, 1878. A medical student, 24 years old, was brought into the hospital, who had an hour and a half before, received a pistol-bullet wound in the upper epiphysis of the right tibia. At that time the synovial fluid had escaped from the wound, and at the time of his entrance the cavity was distended with blood. The bullet entered near the lateral border of the ligamentum patellæ, and passed transversely 5.8 centimeters into the caput tibiæ. At the extremity of the path of the bullet a hard body could be felt. A longitudinal incision was made and the wound enlarged until the bullet could be extracted with a sharp gouge. While the wound was being chiseled out succussion of air and blood in the articular cavity was audible. The articular cavity was then opened above the patella, washed out, and a drainage tube inserted. A drainage tube was also inserted in the wound of the tibia. Strict antiseptic precautions were observed during the operation and in the after treatment. Under this treatment all went extremely well. On the fourth day the drainage tube was removed from the articular cavity, and two days later the tube was removed from the wound of the tibia. Six weeks later the patient was allowed to walk, and in two and a half months the functions of the knee-joint were completely restored. Before the introduction of the Lister method, a penetrating bullet wound of the knee-joint would have indicated amputation. In the Franco-German war, the results of statistics of results from excisions of the knee-joint for such lesions were so unfavorable that surgeons generally preferred to amputate to save life. Such conservative treatment as that employed in this case would have been considered criminal at that time.—*Chicago Med. Gazette*, April 5.

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### THE BOGUS DIPLOMA BUSINESS.

A week or two ago the Committee of the Methodist Conference to which was referred the charges against Rev. T. B. Mil-

ler, M. D., the dean of the Philadelphia University of Medicine and Surgery, reported that after full investigation they found both charges and specifications amply sustained, and sentenced the offender to deposition from the Christian ministry and expulsion from the Methodist Episcopal Church.

A few days later the stock and fixtures of this precious institution were seized and sold at constable's sale, for rent. We have no expectation, however, that this pestilent nuisance is eradicated. It will continue to put up its head until all connected with it get their just dues in a public prison. Some general measure should be devised to reach these diploma selling concerns here and elsewhere. According to the Cincinnati *Lancet*, there are within the limits of that city already half a dozen so-called medical colleges not possessing a shadow of legal authority to issue diplomas. This issue of diplomas without legal incorporation as a college is by no means so uncommon in other States, as, for instance, New York, as might be supposed. In veterinary, as well as general medicine, there are several schools in that city whose diplomas are frauds upon the body politic, or, at least, no better than certificates of proficiency issued by men who have no proper claim to the prefix of Professor, and some of them none to the degree of Doctor of Medicine or Veterinary Surgeon.—*Med. and Surg. Reporter*, April 3rd.

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HYGIENE OF THE SCHOOL-ROOM IN ITS RELATION TO LIGHT.

The following are the conclusions of a paper read before the Société de Biologie by Dr. Javal, director of the laboratory of Opthalmology, at the Sorboune, published in the Gazette Hebdomadaire, October 17, 1879, and noticed in the Medical News and Abstract, January, 1880:

1. It is proved that the causes of short-sightedness are habitually a prolonged application of sight during childhood, combined with insufficient light.

2. In our climate illumination by diffused light never attains, even in the open air, to an injurious intensity.

3. The belief that bilateral light is injurious to the preservation of sight does not rest on any theoretical basis.

4. According to most recent statistics there are schools in which, the light being bilateral, myopia is comparatively rare; and there exists others in which unilateral light is had under most favorable conditions, nevertheless myopia is as frequent as in the worst arranged schools. Experience is certainly not in favor of unilateral light.

5. Sufficient light, by means of windows arranged on one side can only be obtained if the width of the room does not exceed the height of the lintels of the windows above the floor.

6. Light from behind, if it comes from above, may be usefully combined with lateral light; the light from a glazed roof is excellent.

7. Bilateral light should be preferred on all accounts. In this system, the width of the school-room being for the same height of windows twice as great as in the case of unilateral light, the intensity of the light in the middle of the room (which is the least benefited portion) is double that obtained by the same distance from windows where unilateral light is used. However, the width of the school-room must never exceed double the height of the windows.

8. Great importance must be attached to placing the school toward the east, and the axis should be directed from north-northeast to southwest; a deviation of more than forty degrees from the direction north-south should never be allowed except in exceptional climatic conditions.

9. The master should face the south.

10. Finally, it is absolutely indispensable to reserve on every side of the school-room a strip of inalienable ground, of which the width should be double the height of the loftiest buildings that could be erected; allowing for the progress of civilization which has multiplied high-storied buildings to an extent hitherto unknown in the country. This last condition is the most important of all.—*Chicago Med. Gaz.*, April 5.

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## CURE FOR VOMITING OF PREGNANCY.

Dilatation of the cervical canal for the vomiting of pregnancy is now regarded not only an efficient means of treatment, but reasonably safe. The dilatation should not, however, be carried to the interior of the uterine cavity, but should rather be confined to the lower portion of the constricted part of the cervical canal, and even here need not be extensive. It may be accomplished with the index finger, which should be gently carried through the external os with the rotating movement, until one-half of the first phalanx has been introduced. This may be easily accomplished with the multipara, but with the primipara it will generally be necessary to enlarge the os by previous dilatation, until room enough has been gained to admit the finger. The statistics of this method of treatment are not sufficiently large to warrant us in saying that it is wholly unattended with danger of abortion, but from records of several cases, since 1875, it may be said that it is a safe and sure remedy. It was discovered by Copman in 1875, when he dilated for the purpose of producing an abortion for the relief of vomiting, and instead of causing the abortion he cured the vomiting.—*Chicago Med. Gaz.*, March 5.

# MEADOWS' TABLE FOR ESTIMATING THE PROBABLE DURATION OF PREGNANCY.

Recommended by Dr. E. O. F. Roler, Professor of Obstetrics and Diseases of Women and Children in Chicago Medical College.

| January. | | | February. | | | March. | | | April. | | | May. | | | June. | | | July. | | | August. | | | September. | | | October. | | | November. | | | December. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. | Conception. | Quickening. | Labor. |
| Jan | May | Oct | e b | J'ne | Nov | Mar | J'ly | Dec | Apr | Aug | Jan | May | Sep | Feb | J'ne | Oct | Mar | J'ly | Nov | Apr | Aug | Dec | May | Sep | Jan | J'ne | Oct | Feb | J'ly | Nov | Mar | Aug | Dec | Apr | Sep |
| 1 | 20 | 8 | 1 | 20 | 8 | 1 | 18 | 6 | 1 | 18 | 6 | 1 | 17 | 5 | 1 | 18 | 8 | 1 | 17 | 7 | 1 | 18 | 8 | 1 | 18 | 8 | 1 | 17 | 8 | 1 | 20 | 8 | 1 | 19 | 7 |
| 2 | 21 | 9 | 2 | 21 | 9 | 2 | 19 | 7 | 2 | 19 | 7 | 2 | 18 | 6 | 2 | 19 | 9 | 2 | 18 | 8 | 2 | 19 | 9 | 2 | 19 | 9 | 2 | 18 | 9 | 2 | 21 | 9 | 2 | 20 | 8 |
| 3 | 22 | 10 | 3 | 22 | 10 | 3 | 20 | 8 | 3 | 20 | 8 | 3 | 19 | 7 | 3 | 20 | 10 | 3 | 19 | 9 | 3 | 20 | 10 | 3 | 20 | 10 | 3 | 19 | 10 | 3 | 22 | 10 | 3 | 21 | 9 |
| 4 | 23 | 11 | 4 | 23 | 11 | 4 | 21 | 9 | 4 | 21 | 9 | 4 | 20 | 8 | 4 | 21 | 11 | 4 | 20 | 10 | 4 | 21 | 11 | 4 | 21 | 11 | 4 | 20 | 11 | 4 | 23 | 11 | 4 | 22 | 16 |
| 5 | 24 | 12 | 5 | 24 | 12 | 5 | 22 | 10 | 5 | 22 | 10 | 5 | 21 | 9 | 5 | 22 | 12 | 5 | 21 | 11 | 5 | 22 | 12 | 5 | 22 | 12 | 5 | 21 | 12 | 5 | 24 | 12 | 5 | 23 | 11 |
| 6 | 25 | 13 | 6 | 25 | 13 | 6 | 23 | 11 | 6 | 23 | 11 | 6 | 22 | 10 | 6 | 23 | 13 | 6 | 22 | 12 | 6 | 23 | 13 | 6 | 23 | 13 | 6 | 22 | 13 | 6 | 25 | 13 | 6 | 24 | 12 |
| 7 | 26 | 14 | 7 | 26 | 14 | 7 | 24 | 12 | 7 | 24 | 12 | 7 | 23 | 11 | 7 | 24 | 14 | 7 | 23 | 13 | 7 | 24 | 14 | 7 | 24 | 14 | 7 | 23 | 14 | 7 | 26 | 14 | 7 | 25 | 13 |
| 8 | 27 | 15 | 8 | 27 | 15 | 8 | 25 | 13 | 8 | 25 | 13 | 8 | 24 | 12 | 8 | 25 | 15 | 8 | 24 | 14 | 8 | 25 | 15 | 8 | 25 | 15 | 8 | 24 | 15 | 8 | 27 | 15 | 8 | 26 | 14 |
| 9 | 28 | 16 | 9 | 28 | 16 | 9 | 26 | 14 | 9 | 26 | 14 | 9 | 25 | 13 | 9 | 26 | 16 | 9 | 25 | 15 | 9 | 26 | 16 | 9 | 26 | 16 | 9 | 25 | 16 | 9 | 28 | 16 | 9 | 27 | 15 |
| 10 | 29 | 17 | 0 | 29 | 17 | 10 | 27 | 15 | 10 | 27 | 15 | 10 | 26 | 14 | 10 | 27 | 17 | 10 | 26 | 16 | 10 | 27 | 17 | 10 | 27 | 17 | 10 | 26 | 17 | 10 | 29 | 17 | 10 | 28 | 16 |
| 11 | 30 | 18 | 11 | 30 | 18 | 11 | 28 | 16 | 11 | 28 | 16 | 11 | 27 | 15 | 11 | 28 | 18 | 11 | 27 | 17 | 11 | 28 | 18 | 11 | 28 | 18 | 11 | 27 | 18 | 11 | 30 | 18 | 11 | 29 | 17 |
| 12 | 31 | 19 | | J'ly | | 12 | 29 | 17 | 12 | 29 | 17 | 12 | 28 | 16 | 12 | 29 | 19 | 12 | 28 | 18 | 12 | 29 | 19 | 12 | 29 | 19 | 12 | 28 | 19 | 12 | 31 | 19 | 12 | 30 | 18 |
| | J'ne | | 12 | 1 | 19 | 13 | 30 | 18 | 13 | 30 | 18 | 13 | 29 | 17 | 13 | 30 | 20 | 13 | 29 | 19 | 13 | 30 | 20 | 13 | 30 | 20 | | Mar | | | Apr | | | May | |
| 13 | 1 | 20 | 13 | 2 | 20 | 14 | 31 | 19 | 14 | 31 | 19 | 14 | 30 | 18 | 14 | 31 | 21 | 14 | 30 | 20 | 14 | 31 | 21 | 14 | 31 | 21 | 13 | 1 | 20 | 13 | 1 | 20 | 13 | 1 | 19 |
| 14 | 2 | 21 | 14 | 3 | 21 | | Aug | | | Sep | | | Oct | | | Nov | | | Dec | | | Jan | | | Feb | | 14 | 2 | 21 | 14 | 2 | 21 | 14 | 2 | 20 |
| 15 | 3 | 22 | 15 | 4 | 22 | 15 | 1 | 20 | 15 | 1 | 20 | 15 | 1 | 19 | 15 | 1 | 22 | 15 | 1 | 21 | 15 | 1 | 22 | 15 | 1 | 22 | 15 | 3 | 22 | 15 | 3 | 22 | 15 | 3 | 21 |
| 16 | 4 | 23 | 16 | 5 | 23 | 16 | 2 | 21 | 16 | 2 | 21 | 16 | 2 | 20 | 16 | 2 | 23 | 16 | 2 | 22 | 16 | 2 | 23 | 16 | 2 | 23 | 16 | 4 | 23 | 16 | 4 | 23 | 16 | 4 | 22 |
| 17 | 5 | 24 | 17 | 6 | 24 | 17 | 3 | 22 | 17 | 3 | 22 | 17 | 3 | 21 | 17 | 3 | 24 | 17 | 3 | 23 | 17 | 3 | 24 | 17 | 3 | 24 | 17 | 5 | 24 | 17 | 5 | 24 | 17 | 5 | 23 |
| 18 | 6 | 25 | 18 | 7 | 25 | 18 | 4 | 23 | 18 | 4 | 23 | 18 | 4 | 22 | 18 | 4 | 25 | 18 | 4 | 24 | 18 | 4 | 25 | 18 | 4 | 25 | 18 | 6 | 25 | 18 | 6 | 25 | 18 | 6 | 24 |
| 19 | 7 | 26 | 19 | 8 | 26 | 19 | 5 | 24 | 19 | 5 | 24 | 19 | 5 | 23 | 19 | 5 | 26 | 19 | 5 | 25 | 19 | 5 | 26 | 19 | 5 | 26 | 19 | 7 | 26 | 19 | 7 | 26 | 19 | 7 | 25 |
| 20 | 8 | 27 | 20 | 9 | 27 | 20 | 6 | 25 | 20 | 6 | 25 | 20 | 6 | 24 | 20 | 6 | 27 | 20 | 6 | 26 | 20 | 6 | 27 | 20 | 6 | 27 | 20 | 8 | 27 | 20 | 8 | 27 | 20 | 8 | 26 |
| 21 | 9 | 28 | 21 | 10 | 28 | 21 | 7 | 26 | 21 | 7 | 26 | 21 | 7 | 25 | 21 | 7 | 28 | 21 | 7 | 27 | 21 | 7 | 28 | 21 | 7 | 28 | 21 | 9 | 28 | 21 | 9 | 28 | 21 | 9 | 27 |
| 22 | 10 | 29 | 22 | 11 | 29 | 22 | 8 | 27 | 22 | 8 | 27 | 22 | 8 | 26 | 22 | 8 | 29 | 22 | 8 | 28 | 22 | 8 | 29 | 22 | 8 | 29 | 22 | 10 | 29 | 22 | 10 | 29 | 22 | 10 | 28 |
| 23 | 11 | 30 | 23 | 12 | 30 | 23 | 9 | 28 | 23 | 9 | 28 | 23 | 9 | 27 | 23 | 9 | 30 | 23 | 9 | 29 | 23 | 9 | 30 | 23 | 9 | 30 | 23 | 11 | 30 | 23 | 11 | 30 | 23 | 11 | 29 |
| 24 | 12 | 31 | | | Dec | 24 | 10 | 29 | 24 | 10 | 29 | 24 | 10 | 28 | 24 | 10 | 31 | 24 | 10 | 30 | 24 | 10 | 31 | | | J'ly | 24 | 12 | 31 | 24 | 12 | 31 | 24 | 12 | 30 |
| | | Nov | 24 | 13 | 1 | 25 | 11 | 30 | 25 | 11 | 30 | | | Mar | | | Apr | | | May | | | J'ne | 24 | 19 | 1 | | | Aug | | | Sep | | | Oct |
| 25 | 13 | 1 | 25 | 14 | 2 | 26 | 12 | 31 | 26 | 12 | 31 | 25 | 11 | 1 | 25 | 11 | 1 | 25 | 11 | 1 | 25 | 11 | 1 | 25 | 11 | 2 | 25 | 13 | 1 | 25 | 13 | 1 | 25 | 13 | 1 |
| 26 | 14 | 2 | 26 | 15 | 3 | | | Jan | | | Feb | 26 | 12 | 2 | 26 | 12 | 2 | 26 | 12 | 2 | 26 | 12 | 2 | 26 | 12 | 3 | 26 | 14 | 2 | 26 | 14 | 2 | 26 | 14 | 2 |
| 27 | 15 | 3 | 27 | 16 | 4 | 27 | 13 | 1 | 27 | 13 | 1 | 27 | 13 | 3 | 27 | 13 | 3 | 27 | 13 | 3 | 27 | 13 | 3 | 27 | 13 | 4 | 27 | 15 | 3 | 27 | 15 | 3 | 27 | 15 | 3 |
| 28 | 16 | 4 | 28 | 17 | 5 | 28 | 14 | 2 | 28 | 14 | 2 | 28 | 14 | 4 | 28 | 14 | 4 | 28 | 14 | 4 | 28 | 14 | 4 | 28 | 14 | 5 | 28 | 16 | 4 | 28 | 16 | 4 | 28 | 16 | 4 |
| 29 | 17 | 5 | | | | 29 | 15 | 3 | 29 | 15 | 3 | 29 | 15 | 5 | 29 | 15 | 5 | 29 | 15 | 5 | 29 | 15 | 5 | 29 | 15 | 6 | 29 | 17 | 5 | 29 | 17 | 5 | 29 | 17 | 5 |
| 30 | 18 | 6 | | | | 30 | 16 | 4 | 30 | 16 | 4 | 30 | 16 | 6 | 30 | 16 | 6 | 30 | 16 | 6 | 30 | 16 | 6 | 30 | 16 | 7 | 30 | 18 | 6 | 30 | 18 | 6 | 30 | 18 | 6 |
| 31 | 19 | 7 | | | | 31 | 17 | 5 | | | | 31 | 17 | 7 | | | | 31 | 17 | 7 | 31 | 17 | 7 | | | | | | | | | | 31 | 19 | 7 |

If time of conception is not known, calculate from a date one week in advance of last appearance of menses.

### CAUSES OF FATIGUE IN READING.

An important study has been made of this subject by Dr. Javal, director of the Laboratory of Ophthalmology of the Sorbonne, published in the *Annales d'Oculistique*. The fatigue of the eyes which is so often complained of by literary men he believes due to a permanent tension of accomodation; reading requires constant, steady strain of the eyes, while many other occupations demanding close. do not need constant, sight. His researches extend to the question, of great economical importance, given a surface of paper and a number of words to print upon it, what rule will secure the maximum of legibility? The answer is: *Other things being equal, the legibility of a printed page does not depend on the height of the letters, but on their breadth.* This fact is of special importance in the preparation of school books, and Dr. Laval's suggestions should receive the attention of publishers, type founders and school boards.—*Med. and Surg. Reporter*, April 3.

## EDITORIAL DEPARTMENT.

### VALEDICTORY.

The present number closes the seventh volume of the journal, and the third under the present management. The assurances of success vouchsafed to us when we embarked in the enterprise, have been fully realized, and future prospects are flattering. The circulation has materially increased until the measure of success in the past, warrants further efforts on our part to enlarge its sphere of usefulness. When the prospectus of the present volume was sent out a monthly issue of eighty pages was guaranteed. Still we have not kept within our limits, for the numbers will average nearer one hundred pages. It is the intention of the editors to have the eighth volume increased still further, and each number contain one hundred pages of reading matter, making an annual volume of twelve hundred pages.

The large number of foreign exchanges will enable our readers to learn from French, Spanish, Italian, German, Norwegian and Danish journals, whatever of practical importance that can be gleaned from them, and conscientious and painstaking translators will have charge of this department. The New Orleans Medical and Surgical Association and Orleans Parish Medical Society, will continue to publish the valuabl

papers read at their meetings, and clinical records of importance will be a prominent feature. With the incentive of continued patronage, the editors issue their next number with more than ordinary zeal, and their efforts, as in the past, will be to make THE NEW ORLANS MEDICAL AND SURGICAL JOURNAL, the exponent of Southern medicine and Southern medical literature.

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## Obituary.

### DR. SAM'L CHOPPIN.

After an illness of only 48 hours Dr. Samuel Choppin, died of pneumonia, May 2d, 1880, at 8:10 o'clock, at his residence, in New Orleans.

The distinguished physician was born at Baton Rouge, in this State, in the year 1828.

On becoming of the proper age he began his medical studies at the Medical College of Louisiana, now a part of the University of Louisiana. After passing two years as resident student at the Charity Hospital he graduated in 1850. He then went to Europe and spent two years in Paris and Italy, pursuing his studies. On returning to New Orleans he, with his colleague, Dr. C. Beard, was appointed Demonstrator of Anatomy in the Medical College, and for five years he discharged the duties of this office.

During this time he was also House Surgeon of the Charity Hospital, where he made an enviable record for himself as a surgeon and administrator. These duties, while onerous, did not prevent him from devoting a portion of his time to literature, and we find him acting as one of the editors of the Medical News and Hospital Gazette.

He was one of the founders of the New Orleans School of Medicine. This educational venture soon achieved reputation and success, and so rapid was its growth that the last class previous to the war numbered 260 students. At the outset of the civil troubles he offered his services to the Southern cause, and served as medical inspector and surgeon-in-chief to Gen. Beauregard during the sieges of Charleston and Petersburg.

His career in the army was marked by capacity of the highest order and elicited eulogiums from Lee, Beauregard and other leaders of the Confederacy, and did much to advance his reputation as a distinguished surgeon.

At the close of the war he returned to New Orleans and entered into a copartnership with his friend, Dr. C. Beard, for the practice of his profession. His great energy, zeal and skill soon created for him a clientelle as large, remunerative and appreciative as any physician has ever acquired in this city.

Although not a politician Dr. Choppin took a deep interest in public affairs, and in the memorable scenes of the 14th of September, 1874, he was a prominent actor.

Upon the advent of the Nicholls Government he was appointed President of the Board of Health, and occupied the position until a few weeks since.

His administration of affairs reflected honor and credit upon himself, and did much to advance the welfare of the State. He did this, too, at the sacrifice of great personal interests, almost up to the moment of his death.

In the July No. of the Journal there will appear a biographical sketch of this distinguished surgeon.

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## COL. T. S. HARDEE.

Died at his residence in New Orleans, May 21st, 1880, Col. Thomas Sydenham Hardee, Chief State Engineer of Louisiana.

Col. Hardee was born near Savannah, Ga., December, 1832. He was educated at Athens Ga., and studied engineering at West Point, under Prof. Mahan and Gen'l. McClellan. Eminent before the war as R. R. Engineer, the advent of hostilities afforded a field where his remarkable powers were recognized, and he served in the Confederate Army, as Lt. Col. of Engineers. Since that time he has been prominent in his profession, and his views always commanded attention.

As a member of the Louisiana State Board of Health, member of the Yellow Fever Commission, and member of the committee, from the National Board of Health, investigating yellow fever in Cuba, his professional worth won the regard of his colleagues.

# Reviews and Book Notices.

*Our Homes.* By Henry Hartshorn, A. M., M. D. Formerly Professor of Hygiene, in the University of Pennsylvania, etc. Philadelphia, Presley Bakiston, 1880. New Orleans. Armand Hawkins, 196½ Canal street. Price 50 cents.

The American Health Primers, so admirably adapted to the wants of the community afford quite a library of good common sense teaching and should be more widely known and appreciated. In the volume before us, the views of the author are not extravagant, and the practical hints in regard to the location of houses, directions bearing upon their proper ventilation, light, warmth, water supply, drainage, etc, are wisely and tersely given.

We wish the "American Health Primers" a wide-spread circulation.

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*A Practical Handbook of Medical Chemistry applied to Clinical Research, and the detection of Poisons.* Partly based on "Bowman's Medical Chemistry." By William H. Greene, M. D., Demonstrator of Chemistry in the Medical Department in the University of Pennsylvania, etc., etc. Philadelphia: Henry C. Lea's Son & Co. New Orleans: Armand Hawkins, 196½ Canal street. 12 mo. Pp. 310. Price $1 75.

After an introductory chapter on manipulation the work is presented in three parts corresponding to the most natural division of the subject.

The first part embraces a brief description of the proximate principles which take part in normal and pathological vital action, and the characteristics by which they are identified are demonstrated.

The second part is a consideration of the more important liquids and solids of the body, together with the processes by which they may be analyzed. The methods given embrace those which yield the most accurate results in hands not specially skilled in chemical manipulations.

The third part of the book treats of the detection of the more ordinary poisons and is especially practical.

The large number of cuts illustrating the work adds much to its value. The publishers present the work beautifully printed and strongly bound in cloth at a very low price.

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*A Manual of Pathological Histology.* By V. Cornil, Assistant Professor in the Faculty of Medicine of Paris, and L. Ranvier, Professor in the College of France. Translated with notes and additions by E. O. Shakespeare, A. M., M. D., Opthalmic Surgeon and Microscopist to the Philadelphia Hospital ,etc., and J. Henry C. Simes, M. D. Demonstrator of Pathological Histology and Lecturer on Histology in the University of Pennsylvania. With three hundred and sixty illustrations on wood. Philadelphia: Henry C. Lea. New Orleans: Armand Hawkins, 196½ Canal street. 8vo. pp. 784. Price $5 50.

The translation into English of the work of Cornil and Ranvier, has added one of the most complete volumes on pathological history, we have ever seen. The plan of study embraced within its pages is essentially practical. Normal issues are discussed, and, after their thorough demonstration, we are, then able to compare any pathological change which has occurred to them. Thus side by side, physiological and pathological anatomy go hand in hand, affording that best of all processes in demonstrations, comparison. The admirable arrangement of the work affords facility in the study of any part of the human economy.

Part 1st is a study of general pathological anatomy and embraces in its sub-divisions cells and normal tissues, alterations of cells, inflammation and tumors. Part 2nd, diseases of organs and tissues, lesions of bones, lesions of cartilage, lesions of muscular tissue, etc. Part 3rd is devoted to the pathology of the resperatory and digestive systems and various organs and glands, the genito urinary apparatus, and closes with a chapter on the pathological anatomy of the skin. All through the work we note the great care bestowed upon the descriptions of normal tissues, thus affording precision in the study of the abnormal.

The American editors have added much of interest, and deserve warm thanks for the creditable manner they have fulfilled their task. The plates are admirable, many we understand are taken from the "Medical and Surgical History of the late War." A complete index is added.

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*Sore Throat, its Nature, Varieties and Treatment; including the connection between Affections of the Throat and other Diseases.* By Prosser James, M. D., Lecturer in Materia Medica and Therapeutics at London Hosp.; Phys. to Hosp. for Dis. of Throat and Chest, etc. Fourth edition, illustrated with hand-colored plates. 12mo. Pp. 318. Philadelphia: Lindsay & Blakiston. 1880. [Sold by Armand Hawkins, 196½ Canal street, New Orleans. Price $2 25.]

The third edition, which was sold in about three months, was a thorough revision of the preceding; but, in the long interval between the second and third editions, the author was gratified to observe that his new doctrines had gained general adoption, and that the measures which he disapproved had been rejected by the profession.

The 23 chapters of the work are grouped in three parts, or general heads, as follows: I. Preliminary sketch of the whole subject; II. Diffused Affections; III. Diseases of Individual Organs.

Chapter X. treats of Exudative Sore Throat, or Croup and Diphtheria. As to the unity or diversity of the two, the author seems rather unsettled between the French notion on the one hand and the German on the other. By way of distinction, allusion is simply made to the anatomical seat of the false membrane, which is said in croup to involve only the ephithelium, while in diphtheria the deeper structure is affected, even to loss of substance. On this point he sums up as follows: "This distinction, therefore, must be given up, or it must be admitted that croupous inflammation may set up the constitutional symptoms of diphtheria; while, then, we cannot point to any anatomical differences between croup and diphtheria, the two affections form sufficiently clear clinical groups to warrant us in speaking of each separately."

They are accordingly considered apart from each other ; but, unless one had previously made up his mind on the question of identity, he would not be likely to come to a clear conclusion from reading these pages. The distinctions have been drawn so clearly by other writers, that this failure must be regarded as a serious defect, and it is quite unsatisfactory to one desirous of knowing the author's real opinion. Nevertheless, on the point of treatment he is sufficiently precise and copious.

Having relieved our mind on what we regard as the weakest chapter of the work, we feel free now to express general commendation of it as a whole. Though not, strictly speaking, a monograph, it has the copiousness which attaches to these productions, without becoming over-tiresome. According to the prevailing custom, the throat affections are fairly entitled to a special treatise, and this is so far the best we have seen.

S. S. H.

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*Post-Mortem Examinations, with special reference to Medico-legal Practice.* By Prof. Rudolph Virchow, of the Berlin Charité Hospital. Translated from the second German edition by Dr. T. P. Smith. 12mo. Pp. 145. Philadelphia: Presley Blakiston. 1880. [Sold by Armand Hawkins, 196½ Canal street, New Orleans.]

This little volume consists of three essentially distinct parts, all having important relations to the main object—to afford a reliable guide in the performance of autopsies. The first part gives minute directions for the examination of all the organs, the proper performance of which, in the opinion of the distinguished author, should occupy about three hours. The second part illustrates the first, by presenting the full notes made by the author in the post-mortem examination of four different subjects, selected with reference to interesting features. The third part contains the Regulations for the Guidance of Medical Jurists in conducting Post-mortem examinations for legal purposes, adopted for use in the German empire.

The importance of minute and complete examination of a dead body is well illustrated in the report of the second case examined. This was one of suicide by gunshot wound of the head. Death was found to have resulted from suffocation,

caused by pulmonary œdema, which was induced by the pressure of extravasated blood on the medulla oblongata.

The simple fact that this work is by the greatest pathologist of the age, is sufficient to give it the stamp of authority, as far as it goes, for it must not be supposed that pathology is even touched, nor morbid anatomy beyond the four cases offered as examples in practice. S. S. H.

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*A Guide to the Practical Examination of Urine. For the use of Physicians and Students.* By James Tyson, M. D., Prof. Gen. Path. and Morb. Anat., Univ. Pa., etc. Third edition, revised and corrected, with illustrations. 12 mo. Pp. 183. Philadelphia: Lindsay & Blakiston, 1880.

The first edition of this work appeared in Nov., 1874, and the second in April, 1878. The demand for a new edition in less than eighteen months, shows its appreciation by the profession.

The analysis of urinary constituents includes both the method of precise quantitative estimation and that of approximative valuation; and the descriptions of the various processes are clear and concise. The illustrations are sufficiently copious for illustration of microscopical appearances.

Frequent reference is made to the work of Hoffman and Ultzmann, which received notice at our hands a few months ago. Dr. Tyson's book, besides being smaller, is easier of reference, from a more systematic arrangement of matter.

S. S. H.

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*A Practical Treatise on Sea-Sickness; its Symptoms, Nature and Treatment.* By George M. Beard, A. M., M. D., etc. 12 mo. Pp. 74. New York: E. B. Treat. 1880.

The author regards sea-sickness as a functional disease of the central nervous system, chiefly of the brain. In some cases it becomes quite dangerous, or even fatal, from nervous exhaustion and inanition. He is not disposed to regard this malady lightly, and does not allow that it is ever of the slightest advantage to the sufferer; all the benefit of a voyage being derived from the pure, bracing atmosphere, and other favorable conditions, to which sea-sickness is only a drawback.

The cause of the complaint is attributed to the agitation of the nervous system by mechanical concussions produced by the motion of the vessel. Americans suffer more than Europeans, women more than men, and delicate women especially, on account of weaker nervous organization. The extremes of life, infancy and old age, exhibit diminished liability to the complaint, but of this fact no satisfactory explanation is given.

The treatment recommended begins by the preliminary use of the bromides, and he gives preference to the sodium bromide. He would commence its administration from one to three days before sailing, so as to induce moderate bromization before becoming liable to sea-sickness, and this condition should be maintained through the voyage, if necessary. In some cases he uses sulphate of atropia, either alone or in combination with the bromide. For the sick headache, which sometimes is quite distressing, he recommends citrate of caffeine and cannabis indica—the latter being preferable in the evening, as it rather promotes than prevents sleep.

The author professes great confidence in the remedies above named, from a somewhat extended experience; and his judgment is fortified by the experience of Dr. W. F. Hutchinson, of Providence, with the same bromide in conjunction with minute doses of ipecac.

Until now sea-sickness has been one of the *opprobria medicorum*, and it would be as remarkable as it would be a blessing to humanity, if the teaching of Dr. Beard should be happily confirmed by the multitude who go down to the sea in ships.

S. S. H.

## Books and Pamphlets Received.

*A Text-Book of Physiology.* By M. Foster, M. A., M. D., F. R. S., Prelector in Physiology and Fellow of Trinity College, Cambridge. From the Third and Revised English Edition, with Notes and Additions. By Edward T. Reichert, M. D.,

Demonstrator of Experimental Therapeutics, University of Pennsylvania.

*Modern Medical Therapeutics, a Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign.* By George H. Napheys, A. M., M. D., etc.

*A Practical Treatise on Sea-Sickness. Its Symptoms, Nature and Treatment.* By George M. Beard, A. M., M. D., Fellow of the New York Academy of Medicine, etc. etc.

*Diseases of the Maxillary Sinus.* By Edward Bork, M. D., member of the Medical and Chirurgical Faculty of Maryland and Baltimore Medical Association, etc., etc.

*Modern Abuse of Gynæcology.* By Clifton E. Wing, M. D., Boston Mass.

*The Black Arts in Medicine, with Anniversary Address.* By John D. Jackson, A. M., M. D., Member of the Kentucky State Medical Society, etc. Edited by L. S. McMurtry, A. M., M. D.

*Re-opening of the Famous Fauquier, White Sulphur Springs Va., Season of* 1880.

*Report on Drainage and Sewerage.* By John Roy, New Orleans, La.

*On the Removal of Foreign Bodies from the Eye. With Four Cases.* By Charles Stedman Bull, M. D., Surgeon and Pathologist to the New York Eye and Ear Infirmary. Re-print from the Archives of Ophthalmology, March, 1880.

*Second Edition of Malaria, and its Affects.* By J. W. Young, M. D.

*Measles not a Trivial Disease. A Report on the Present Epidemic in Brooklyn, and its Treatment by the Board of Health.* By J. H. Raymond, M. D.

*Progress in the Management of Contagious Disease, by the Brooklyn Board of Health.* By J. H. Raymond, M. D.

*A Case of Intra-Ovarian Pregnancy with Post-Mortem Examination.* By Talbot Jones, M. D., St Paul, Minn. Re-print from the American Journal of the Medical Sciences.

## Meteorological Summary—April.
### Station—New Orleans.

| Date. | Daily Mean Barometer. | Daily Mean Temp'ture. | Daily Mean Humidity. | Prevailing Direction of Wind. | Daily Rain-fall. |
|---|---|---|---|---|---|
| 1 | 30.06 | 66.7 | 72.0 | S. E. | . |
| 2 | 29.95 | 70.5 | 90.0 | South | 1.78 |
| 3 | 29.99 | 75.5 | 80.7 | S. W. | .01 |
| 4 | 30.04 | 75.7 | 81.7 | S. W. | ... |
| 5 | 30.05 | 75.0 | 77 0 | S. W. | .... |
| 6 | 30.02 | 76.2 | 74.7 | S. W. | .... |
| 7 | 30.06 | 68.0 | 67.7 | N. E. | .02 |
| 8 | 30.18 | 53.2 | 75.3 | North | .82 |
| 9 | 30.28 | 57.5 | 44.0 | North | .... |
| 10 | 30.18 | 62.7 | 48.0 | South | .... |
| 11 | 30.19 | 66.2 | 48.3 | N. W. | .... |
| 12 | 30.38 | 58.0 | 57.7 | East. | .... |
| 13 | 30.27 | 63.7 | 66.0 | S. E. | .... |
| 14 | 30.14 | 70.7 | 78.0 | S. E. | .02 |
| 15 | 30.03 | 73.2 | 80 0 | South | .... |
| 16 | 29·98 | 76.0 | 79.3 | South | .... |
| 17 | 30.02 | 76.2 | 77.0 | South | .... |
| 18 | 29.95 | 76.2 | 75.3 | South | .... |
| 19 | 29.95 | 74.7 | 79.7 | South | 1.25 |
| 20 | 30.09 | 69.0 | 85.7 | North | 1.95 |
| 21 | 30.11 | 73.5 | 84.3 | North | .63 |
| 22 | 29.98 | 76.0 | 77.7 | South | .... |
| 23 | 29.88 | 77.2 | 78.3 | South | .... |
| 24 | 29.88 | 76.0 | 80.0 | South | .... |
| 25 | 29.99 | 77.7 | 78.0 | S. E. | .... |
| 26 | 30.05 | 76 7 | 73.3 | North | .... |
| 27 | 30·12 | 74.. | 67.0 | East. | .... |
| 28 | 30.05 | 75.7 | 78.7 | South | .21 |
| 29 | 30.10 | 73.2 | 76.0 | North | .19 |
| 30 | 30.29 | 70.0 | 54.3 | North | .... |
| 31 | ..... | .... | .... | ..... | .... |
| Sums | | | | | |
| Means | 30.075 | 71.2 | 72.8 | South | 6.88 |

#### General Items.

Highest Barometer, 30.442, on 12th.
Lowest Barometer, 29.862, on 24th.
Monthly Range of Barometer, 0.580.
Highest Temperature, 84° on 25th.
Lowest Temperature, 42° on 8th, 9th.
Monthly Range of Temperature, 35°.
Greatest Daily Range of Temperature, 22° on 13th, 14th.
Least Daily Range of Temp., 7° on 2d.
Mean of Maximum Temperatures, 77°6.
Mean of Minimum Temperatures, 64°8.
Mean Daily Range of Temp., 12°8.
Prevailing Direction of Wind, South.
Total Movement of Wind, 6,289 miles.
Highest Velocity of Wind and Direction, 28 miles, North, on 29th.
Number of Clear Days, 7.
Number of Fair Days, 12.
Number of Cloudy days on which no Rain fell, 6.
Number of Cloudy Days on which Rain fell, 5. Total number of days on which rain fell, 10.
Dates of Luna Halos, 21st.

COMPARATIVE TEMPERATURE.

| | | | |
|---|---|---|---|
| 1871..... | | 1876..... | 69°.1 |
| 1872..... | | 1877..... | 68°.6 |
| 1873 | 67°.0 | 1878..... | 71°.5 |
| 1874 | 65°.6 | 1879..... | 67°.9 |
| 1875 | 65°.3 | 1880..... | 71°.2 |

COMPARATIVE PRECIPITATION

| | | | |
|---|---|---|---|
| 1871 | inches. | 1876: | 6.41 inches |
| 1872 | " | 1877: | 4.79 " |
| 1873 | 1.74 " | 1878: | 1.51 " |
| 1874 | 13.62 " | 1879: | 9.17 " |
| 1875 | 8.05 " | 1880: | 6.88 " |

GEORGE H. ROHÉ,
*Sergeant, Signal Corps, U. S. A.*

## Mortality in New Orleans from April 17th, 1880, to May 15th, inclusive.

| Week Ending. | Yellow Fever. | Malarial Fever. | Consumption. | Small-pox | Pneumonia. | Total Mortality. |
|---|---|---|---|---|---|---|
| April 24 | 0 | 1 | 25 | 0 | 8 | 102 |
| May 1 | 0 | 5 | 10 | 0 | 3 | 111 |
| May 8 | 0 | 5 | 23 | 0 | 10 | 124 |
| May 15 | 0 | 13 | 13 | 0 | 6 | 126 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total.... | 0 | 24 | 79 | 0 | 27 | 463 |

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The universal demand for Cod-Liver Oil that can be depended upon as strictly pure and scientifically prepared, having been long felt by the Medical Profession, we were induced to undertake its manufacture at the Fishing Stations where the fish are brought to land every few hours, and the Livers consequently are in great perfection.

This oil is manufactured by us on the seashore, with the greatest care, from fresh, healthy Livers, of the Cod only, without the aid of any chemicals, by the simplest possible process and lowest temperature by which the Oil can be separated from the cells of the Livers. It is nearly devoid of color, odor and flavor—having a bland fish-like, and to most persons, not unpleasant taste. It is so sweet and pure that it can be retained by the stomach when other kinds fail, and patients soon become fond of it.

The secret of making good Cod-Liver Oil lies in the proper application of the proper degree of heat: too much or too little will seriously injure the quality. Great attention to cleanliness is absolutely necessary to produce sweet Cod-Liver Oil. The rancid Oil found in the market is the make of manufacturers who are careless about these matters.

Prof. Parker, of New York, says: "I have tried almost every other manufacturer's Oil, and give yours the decided preference."

Prof. Hays, State Assayer of Massachusetts, after a full analysis of it, says: "It is the best for foreign or domestic use."

After years of experimenting, the Medical Profession of Europe and America, who have studied the effects of different Cod-Liver Oils, have unanimously decided the light straw-colored Cod-Liver Oil to be far superior to any of the brown Oils.

# SURGICAL INSTRUMENT DEPARTMENT.

Under the direction and personal supervision of W. F. FORD, Instrument Maker to St. Luke's, Mt. Sinai, New York State Women's Hospitals, Bellevue, and all the other New York Hospitals.

MANUFACTURERS, IMPORTERS, WHOLESALE AND RETAIL DEALERS IN

Surgical, Dental, Orthopædic Instruments, Catheters, Trusses, Supporters, Silk Stockings, Ear Trumpets, Splints, Anatomical Preparations, Local Anæsthesia Apparatus, Laryngoscopes, Othalmoscopes, Hypodermic Syringes, Axilla Thermometers, etc., etc.

☞ Special attention given to the manufacture of Instruments to order, in exact accordance with patterns furnished by Surgeons and Physicians.

## CASWELL HAZARD & CO.,

Family and Manufacturing Chemists, New York.

t.jy-80.

# SEABURY & JOHNSON,

*Originators and Manufacturers of U. S. Pharmacopœia Medicinal and Surgical*

# PLASTERS

POROUS AND SPREAD,

IN RUBBER COMBINATION.

*NEW YORK AND LONDON.*

*Received highest and only Award (Medal and Special Diploma of Merit) over all Foreign and Home Competitors in* 1876.

THE JURORS' AWARD IS SUBSTANTIALLY:

**ORIGINALITY**—*The successful application of rubber as a base for all medicinal and mechanical plasters.*

**RELIABILITY** *and general excellence of manufactures.*

***Facts concerning Medicinal Plasters in Rubber Combination.***

India-rubber-spread and Porous Plasters possess indisputable advantages over all other Plasters: [1] The Rubber Combination preserves the incorporated drug or extract from decomposition or volatilization; [2] They adhere closer and firmer; [3] They do not soil the skin or linen; [4] They are always pliable, and never become hard or brittle; [5] They adhere without heat or moisture; [6] An increased effect is obtained by being porous, as the Plaster neither slides nor moves from its affixed position.

## *BELLADONNA PLASTER, U. S. P.*

IN RUBBER COMBINATION.

Messrs. SEABURY & JOHNSON claim that theirs is the most thoroughly reliable and only strictly officinal Belladonna Plaster ever offered the medical profession. It is an improvement on other Belladonna Plasters in several important particulars. First, it is incorporated with the officinal alcoholic extract only. Secondly, it is freed from all stimulating qualities, thereby insuring the uninfluenced sedative action of Belladonna. Thirdly, it adheres with greater tenacity than others. Physicians have been prejudiced in favor of Allen's English Extract; but recent analysis, fairly conducted by competent chemists, emphatically condemns the Inspissated Extract as a mild and unstable product, representing but one-half or less than one-half of the strength of the U. S. P. Alchoholic Extract of Belladonna. The following result, published in the *American Journal of Pharmacy*, in April, 1876, p. 145, is furnished for your consideration, which ndicates the followin ; percentage of Atropia in the respective extracts:

Alcoholic Extract of Belladonna, U. S. P.....2,571
Allen's English Extract.....1,411
Herring's English Extract .....1,179

The practitioner, as well as ourselves, has but one choice.

Considering these features from a professional standpoint, we offer a Belladonna Plaster which cannot be improved upon.

SALICYLATED SURGEONS'

## RUBBER ADHESIVE PLASTER.

This article has met with unprecedented success, and has been emphatically pronounced by our most skillful General and Orthopædic Surgeons, as "the best Surgeons' Adhesive Plaster known." It is applied without heat or moisture, conforms quickly to the parts; is perfectly flexible and waterproof, and is ready for use at any moment. It is free from irritating properties and very healing. In counter-extension it has no equal, as it does not move or slide after being applied. Our India Rubber Adhesive Plaster is also spread on twilled linen, which resists the most powerful strain. In addition to these general improvements, the plaster being impervious to water, wounds can be cleansed without removing the plaster, obviating the necessity of constant redressing, saving labor and time. *Whenever continued powerful adhesion is required, it should be procured in porous form.*

## MUSTARD PLASTER

SPREAD ON COTTON CLOTH.

Our Mustard Plaster is a decided improvement over the best French makes; the mustard is manipulated so as to exclude all the moisture, retaining unimpaired by such treatment its essential properties. They are always reliable, conform quickly to the part, and when thoroughly wet do not break into pieces, as is the case with all other mustard plasters. They do not crack or peel off, and can be removed without soiling the skin or linen. Being *manufactured only of pure mustard*, they are perfectly free from Croton Oil or other dangerous substitutes, often employed to induce intense irritation.

## RUBBER BLISTER PLASTER.

(Camphorated) B. P. STRENGTH,

This article has a splendid reputation; its characteristic action is not impaired by age in any climate. The whole fly is incorporated, which by constant manipulation is thoroughly and beautifully combined with the plaster. *Its properties are developed quicker, and it blisters in less time than the cerate.*

It never fails to blister when used as directed. In addition to its superior efficacy as a vesicant, we incorporate a sufficient quantity of Camphor, which, with the Olive Oil, used on the face of the plaster, *prevents Strangury.* This improvement will be appreciated by every practitioner. It is more reliable than any known cantharidal preparation.

## CAPSICUM PLASTER.

Recently this article has crept into favor with our most esteemed physicians, and judging from results it is doubtless the best rubefacient known. It has the specific action of mustard without its objections. The characteristic action of Capsicum is uniformly maintained from twenty-four to forty-eight hours, without blistering, being mild, continuous and stimulating. This plaster is spread in rubber combination and in porous form. Experience has taught practitioners that the Oleo Resin of Capsicum is too violent, frequently vesicating; we incorporate the crude drug in sufficient quantity, without risk to the patient. Our Capsicum Plasters will be found more practical for general use than the *so-called Mustard or Capsicum Papers.*

### SPECIAL NOTICE TO PHYSICIANS.

*Quality is of great importance to the practitioner—by reliable preparations he supplements his own skill.* You can therefore rest assured that every article we manufacture is of strict pharmacopœa strength, and incorporated with perfectly reliable Extracts and Drugs, well selected, carefully and conscientiously prepared, and manufactured invariably under the personal superintendence of one of our firm. *Our whole attention and study is devoted entirely to the art of Plaster making,* and we are ready at all times to receive suggestions from the fraternity, which may be of benefit to all.

**SEABURY & JOHNSON,**

**21 Platt Street, New York.**

All of the above articles sold by Druggists everywhere. Always specify SEABURY & JOHNSON'S PLASTERS.

SAMPLES SENT TO PHYSICIANS ON APPLICATION.

# WYETH'S DIALYSED IRON.

*(FERRUM DIALYSATUM.)*

*A Pure Neutral Solution of Peroxide of Iron in the Colloid Form*

*The Result of Endosmosis and Difusion with Distilled Water.*

PREPARED SOLELY BY

## JOHN WYETH & BRO.,

*PHILADELPHIA.*

This article possesses great advantages over every other ferruginous preparation heretofore introduced, as it is a solution of Iron in as nearly as possible the form in which it exists in the blood. It is a preparation of invariable strength and purity, obtained by a process of dialysation, the Iron being separated from its combinations by endosmosis, according to the law of diffusion of liquids. It has no styptic taste, does not blacken the teeth, disturb the stomach or constipate the bowels.

It affords, therefore, the *very best* mode of administering

**IRON**

in cases where the use of this remedy is indicated.

Physicians and Apothecaries will appreciate how important is the fact that, as an antidote for Poisoning by Arsenic, Dialysed Iron is quite as efficient as the Hydrated Sesquioxide (hitherto the best remedy known in such cases) and has the great advantage of being always ready for immediate use. It will now doubtless be found in every drug store to supply such an emergency.

Full directions accompany each Bottle.

In addition to this Solution, we prepare a Syrup which is pleasantly flavored, but as the Solution is tasteless, we recommend it in preference: Physicians will find our DIALYSED IRON in all the leading Drug Stores in the United States and Canada.

It is put up in bottles retailing for ONE DOLLAR, containing sufficient for two months treatment. Large size is intended for hospital and dispensing. Retail at $1.50.

Price Lists, &c., &c., sent on application.

JOHN WYETH & BRO., *Phila.*

Now on hand for the trade by G. R. FINLAY & CO., E. J. HART & CO.

Samples to Physicians free on application to

**Alex. K. Finlay.**

*Dispensing Druggist, New Orleans.*

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# Compressed Peptonic Pills.

Each Pill contains 1 grain pure Pepsin, 1 grain pure Pancreatine Lacto-Phosphate of Lime and Lactic Acid, and therefore represents 10 grains of the ordinary or Saccharated Pepsin and 10 grains Pancreatine as usually prescribed and dispensed. Physicians have found these Pills to give prompt relief in many forms of Dyspepsia and Indigestion. They will be of permanent benefit in all cases of enfeebled digestion, produced from want of proper secretion of gastric juice. Physicians will appreciate the great advantage of the mode of preparation of these Pills in the absence of sugar or starch, which is present in all the ordinary Pepsin and Pancreatine Compounds, the increased benefit to the Dyspeptic being due to a full and effective dose of the Pepsin and Pancreatine in soluble combination, and small bulk free from the really hurtful addition of sugar.

*Dose*—One Pill after eating or when suffering from Indigestion, Lump in the Throat or Flatulence. For children reduce the Pill to powder and give one-fourth to one-half.

JOHN WYETH & BRO.

*Chemists, Philadelphia.*

t.S.79

# BEEF, IRON and WINE.

*Extract of Beef, Citrate of Iron and Sherry Wine.*

In this preparation are combined the stimulant properties of WINE and the nutriment of BEEF with the tonic powers of IRON, the effect of which on the blood is so justly valued.

The peculiar feature of this combination is that it

*COMBINES NUTRIMENT WITH STIMULUS.*

In the majority of cases, along with failure of strength, and indeed as one cause of that failure, there is an inability to digest nourishing food. Hence it is very desirable to furnish nourishment in a form acceptable to the stomach, at the same time we excite this organ to do its duty. On the other hand, again, wine stimulus although needed, is ill borne if given by itself, producing headache, excitement, and other symptoms which may be avoided by the addition of nutritious substance, such as the ESSENCE OF BEEF.

Prompt results will follow its use in cases of sudden exhaustion, arising either from acute or chronic diseases, and will prove a

*VALUABLE RESTORATIVE FOR ALL CONVALESCENTS.*

As a Nutritive Tonic it would be indicated in the treatment of impaired nutrition, impoverishment of the blood, and in all the various forms of general debility. Each tablespoonful contains the Essence of one ounce of Beef with two grains of Citrate of Iron, dissolved in Sherry Wine. With a view to making the article more palatable a portion of the beef is in the first place partially roasted, as experience has shown that it is better borne by the stomach, and can be administered for a longer period when this is done.

ADULT DOSE—One tablespoonful between meals, and when suffering from fatigue or exhaustion.

DOSE FOR CHILDREN should be reduced according to the age.

**JOHN WYETH & BRO., Chemists.**

1412 Walnut Street, Philadelphia.

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# LAWTON'S

# ABSORBENT COTTON,

FOR

HOSPITALS, DISPENSARIES, PHYSICIANS, DENTISTS, DRUGGISTS, PHOTOGRAPHERS, ETC., ETC.

The article furnished by us will be found superior to any other on account of the facilities we possess for the manufacture, and the care taken at every step of the process.

Not only in general surgery, but especially in gynæcological practice, Absorbent Cotton has found great favor. It differs little from ordinary cotton in appearance, except in its uniformly fine quality and pure white color, freedom from all impurities,—being entirely cleansed from oil, resin and all foreign matter.

The property of instantly absorbing liquids, its exquisite softness and great cheapness render it an invaluable substitute for Patent Lint, Charpie or Sponge.

We put up our Absorbent Cotton in neat and convenient packages, containing one pound, one-quarter pound and two ounces.

A descriptive Circular will be forwarded on application. Samples containing two ounces will be sent free of postage, on receipt of twenty cents.

JOHN WYETH & BRO.,

*Manufacturing Chemists, Philadelphia.*

# Office of I. L. LYONS,

Importer and Wholesale Druggist,

Corner Camp and Gravier Streets,

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## JOHN WYETH & BROTHER'S

**Fluid Extracts, Elixirs, Wines, Dialysed Iron, Compressed Powders or Pills, Etc., Etc.**

*I have in stock a full line of the Fluid Extracts, Elixirs, Syrups, Wines, Compressed Powders, Dialysed Iron, and other medicinal preparations, manufactured by John Wyeth & Brother, Philadelphia.*

The goods manufactured by this firm are deservedly popular, and give great satisfaction. I have every confidence in the claims of the manufacturers as to the quality of their products. Their large sale and popularity with the best retail trade for many years is the strongest evidence of their care in selecting the choicest drugs, with careful manipulation and intelligent manufacture. I can supply these preparations on as favorable terms as the manufacturers, and will send free of charge, on application, their price lists, dose books, and samples of their goods.

Very Truly Yours,

I. L. LYONS.

t.s-79.

# College of Physicians & Surgeons.

(Medical Department of Columbia College,)

*CORNER OF FOURTH AVENUE AND 23d STREET,*

New York City.

## SEVENTY-THIRD SESSION, 1879-'80.

### FACULTY OF MEDICINE.

LONZO CLARK, M.D., President and Professor of Pathology and Practical Medicine.
WILLARD PARKER, M.D., Professor of Clinical Surgery.
JOHN C. DALTON, M.D., Professor of Physiology and Hygiene.
THOMAS M. MARKOE, M.D., Professor of Surgery.
T. GAILLARD THOMAS, M.D., Professor of Gynæcology.
JOHN T. METCALFE, M.D., Emeritus Professor of Clinical Medicine.
HENRY B. SANDS, M.D., Professor of the Practice of Surgery.
JAMES W. McLANE, M.D., Professor of Obstetrics and the Diseases of Children.
THOMAS T. SABINE, M.D., Professor of Anatomy.
CHARLES F. CHANDLER, Ph. D., Professor of Chemistry and Medical Jurisprudence.
EDWARD CURTIS, M.D., Professor of Materia Medica and Therapeutics.
FRANCIS DELAFIELD, M.D., Adjunct Professor of Pathology and Practical Medicine.
JOHN G. CURTIS, M.D., Adjunct Professor of Physiology and Hygiene; Secretary of the Faculty.
WM. DETMOLD, M.D., Emeritus Professor of Military and Clinical Surgery.
WILLIAM H. DRAPER, M.D., Clinical Professor of Diseases of the Skin.
CORNELIUS R. AGNEW, M.D., Clinical Professor of Diseases of the Eye and Ear.
ABRAHAM JACOBI, M.D., Clinical Professor of Diseases of Children.
FESSENDEN N. OTIS, M.D., Clinical Professor of Venereal Diseases.
EDWARD C. SEGUIN, M.D., Clinical Professor of Diseases of the Mind and Nervous System.
GEO. M. LEFFERTS, M.D., Clinical Professor of Laryngoscopy and Diseases of the Throat.
CHARLES McBURNEY, M.D., Demonstrator of Anatomy.
WM. T. BULL, M.D., Ass't Demonstrat'r of Anatomy.

FRANCIS DELAFIELD, M.D.,
Director of the Pathological Laboratory of the Alumni Association.

### FACULTY OF THE SPRING SESSION.

JAMES L. LITTLE, M.D., Lecturer on Operative Surgery and Surgical Dressings.
GEORGE G. WHEELOCK, M.D., Lecturer on Physical Diagnosis.
ROBERT F. WEIR, M.D., Lecturer on Diseases of the Genito-Urinary Organs.
H. KNAPP, M.D., Lecturer on Diseases of the Eye and Ear.
T. A. McBRIDE, M.D. Lecturer on Symptomatology.
CHARLES McBURNEY, Lecturer on the Anatomy of the Nerves.

THE COLLEGIATE YEAR embraces a special *Spring* and a regular *Winter* Session, attendance at the latter only being required for the graduating course. The Spring Session begins in March, and continues till June 1st. The *Regular Winter Session* for 1879-80 begins October 1st, and continues till March.

TUITION is by the following methods:—

I. DIDACTIC LECTURES—During the *Winter Session* from five to six lectures are given daily by the Faculty. Attendance obligatory. During the *Spring Session* two lectures are given daily by the Faculty of the Spring Session. Attendance optional.

II. CLINICAL TEACHING—Ten Clinics, covering all departments of Medicine and Surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue, Charity, New York and Roosevelt Hospitals, the New York Eye and Ear Infirmary, etc.) as a regular feature of the College curriculum. Attendance optional.

III. RECITATIONS are held daily throughout both Sessions. Attendance optional.

IV. PERSONAL INSTRUCTION—Cases of *Obstetrics* are furnished without charge. Personal instruction is given in *Practical Anatomy, Operative Surgery, Minor Surgery, Physical Diagnosis, Ophthalmology, Otology, Laryngoscopy, and in Normal and Pathological Histology.* Attendance optional, except upon Practical Anatomy.

EXPENSES—The *necessary* expenses are a yearly matriculation fee ($5, good for a collegiate year), the fees for the lectures of the Winter Session ($20 for the course on each branch, or $140 for the entire curriculum), the Practical Anatomy fee ($10, and a small charge for material), and a Graduation Fee of $30. The graduating course requires three years' study, attendance upon two full winter courses of lectures, and upon one course of Practical Anatomy. Remissions and reductions of lecture fees are made to graduates and students who have already attended two full courses. *All fees are payable in advance.* Board can be had for from $5 to $9 a week, and the Clerk of the College will aid students in obtaining it.

For the Annual Catalogue and Announcement, or for further information, address JOHN G. CURTIS, M.D., Secretary of the Faculty, College of Physicians and Surgeons, corner of Twenty-Third Street and Fourth Avenue, New York.

jy.3t.

# University of the City of New York.

## MEDICAL DEPARTMENT.

*410 East Twenty-Sixth St., opposite Bellevue Hospital, New York.*

THIRTY-NINTH SESSION, 1879-'80.

### FACULTY OF MEDICINE.

REV. HOWARD CROSBY, M.D., LL.D., Chancellor of the University.
ALFRED C. POST, M.D., LL.D., Emeritus Professor of Clinical Surgery; President of the Faculty.
CHARLES INSLEE PARDEE, M.D., Professor of Diseases of the Ear; Dean of the Faculty.
JOHN T. DARBY, M.D., Emeritus Professor of Surgery.
JOHN C. DRAPER, M.D., LL.D., Professor of Chemistry.
ALFRED L. LOOMIS, M.D., Professor of Pathology and Practice of Medicine.
WILLIAM DARLING, A.M., M.D., F.R.C.S., Professor of Anatomy.
WILLIAM H. THOMSON, M.D., Professor of Materia Medica and Therapeutics.
J. W. S. ARNOLD, M.D., Professor of Physiology and Histology.
J. WILLISTON WRIGHT, M.D., Professor of Surgery.
WM. M. POLK, M.D., Professor of Obstetrics and the Diseases of Women and Children.
FANEUIL D. WEISSE, M.D., Professor of Practical and Surgical Anatomy.
LEWIS A. STIMSON M.D., Professor of Pathological Anatomy.
A. L. RANNEY, M.D., Adjunct Professor of Anatomy.
JOSEPH E. WINTERS, M.D., Demonstrator of Anatomy.

### POST-GRADUATE FACULTY.

D. B. ST. JOHN ROOSA, M.D., Professor of Ophthalmology.
WM. A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System.
STEPHEN SMITH, M.D., Professor of Orthopedic Surgery.
J. W. S. GOULEY, M.D., Professor of Diseases of the Genito-Urinary System.
MONTROSE A. PALLEN, M.D., Professor of Gynæcology.
HENRY G. PIFFARD, M.D., Professor of Dermatology.
A. E. MACDONALD, M.D., Professor of Medical Jurisprudence.

THE COLLEGIATE YEAR is divided into three Sessions: A Preliminary Session, a Regular Winter Session, and a Spring Session.

THE PRELIMINARY SESSION will commence September 17, 1879, and will continue until the opening of the Regular Winter Session. It will be conducted on the plan of that Session.

THE REGULAR WINTER SESSION will commence on the first of October, 1879, and end about the first of March, 1880.

The location of the new College edifice being immediately opposite the gate of Bellevue Hospital, and a few steps from the ferry to Charity Hospital, Blackwell's Island, the Students of the University Medical College are entabled to enjoy the advantages afforded by these Hospitals with the least possible loss of time. The Professors of the practical Chairs are connected with the Hospitals, and the University Students are admitted to *all the Clinics* given therein, *free of charge.*

In addition to the daily Hospital Clinics, there are eight Clinics each week in the College building. Five Didactic Lectures will be given daily in the College building, and Evening Recitations will be conducted by the Professors of Chemistry, Practice, Anatomy, Materia Medica, etc., Physiology, Surgery, and Obstetrics, upon the subjects of their lectures.

THE SPRING SESSION embraces a period of twelve weeks, beginning in the first week of March, and ending the last week of May. The daily Clinics, Recitations, and Special Practical Courses, will be the same as in the Winter Session, and there will be Lectures on Special Subjects by the members of the Post-Graduate Faculty.

THE DISSECTING ROOM is open throughout the entire Collegiate year; material is abundant and it is furnished free of charge.

STUDENTS WHO HAVE STUDIED TWO YEARS, and who have attended two full Courses of Lectures, may be admitted to examination in Chemistry, Anatomy, and Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, Materia Medica and Therapeutics, Surgery, and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

### FEES:

| | |
|---|---|
| For Course of Lectures | $140 00 |
| Matriculation | 5 00 |
| Demonstrator's Fee (including material for Dissection) | 10 00 |
| Graduation Fee | 30 00 |
| Post-Graduate Certificate | 30 00 |

For further particulars and circulars, address the Dean.

**PROF. CHAS. INSLEE PARDEE, M. D.,**

**University Medical College, 410 East 26th St., New York City.**

jy.4t.

SPECIFY McKESSON & ROBBINS' Oval Shape, Compleie Coating

# IMPORTANT TO PHYSICIANS!

The fact that Sulphate of Quinine is only soluble in over 700 parts of water is not generally known, or if known is not usually considered, except in prescriptions, when this difficulty is overcome by the addition of Acid; and the further fact that **Bi-Sulphate of Quinine** is soluble in **only 10 parts of water** is as little appreciated.

McKesson & Robbins have paid much attention to the subject of putting Quinine into Pills, in a condition approaching that of a solution, and have at last succeeded in their **BI-SULPHATE OF QUININE PILLS,** and offer the same to the profession, confident that they will stand any test for solubility and prompt action. Physicians will please always specify **McK. & R. Bi-Sulph. Quinine Pills,** and they will not be disappointed in results.

**Note.**--With no reference to *respectable* druggists, we would say that cases have come to our knowledge and have been noted, where other pills have been substituted on prescriptions for ours.

# POWDERED PURIFIED CHINOIDINE.

**Containing all the Non-Crystalizable Alkaloids of Cinchona Bark.**

Similar preparations have been lately offered in market AT HIGH PRICES under different fancy appellations, and claims made for the same as of equal efficiency with Quinine.

As a great demand exists for a cheap anti-malarial remedy, we introduce this preparation at low figures; and, in order that the profession may judge practically of its merits, will forward a sample to any physician's address, or mail one ounce upon receipt of FIFTY CENTS.

Yours respectfully,

McKESSON & ROBBINS,

Wholesale Druggists and Manufacturing Chemists,

*91 FULTON ST., NEW YORK.*

# HUNYADI JANOS MINERAL WATER

## THE BEST AND CHEAPEST NATURAL APERIENT.

*THE BRITISH MEDICAL JOURNAL.*

"HUNYADI JANOS.—The most agreeable, safest and most efficacious aperient water which has been brought under our notice."

*THE LANCET.*

"HUNYADI JANOS. Baron Liebig affirms that its richness in aperient salts surpasses that of all other known waters."



*LONDON MEDICAL RECORD.*

"HUNYADI JANOS.—The most pleasant and owing to the smallness of its dose, the CHEAPEST of all the natural aperient waters."

*From Prof. MACNAMARA, Prof. of Materia Medica, Royal College of Surgeons in Ireland.*

"Far the most valuable and palatable of our aperient mineral waters. I have been agreeably surprised with the result of a clinical investigation."

*Specially approved by the Academy of Medicine of Paris, and its Sale in France authorized by decree of the French Government*

*MEDALS AWARDED, LYONS 1872, VIENNA 1873, PARIS 1878.*

| Uses of Hunyadi Janos | ACCORDING TO | Opinions of Eminent Authorities. |
|---|---|---|
| 1. For habitual constipation. | | "None so prompt, mild, and can be so well borne for a length of time."—Prof. SPENCER WELLS. "Univ. of Penn." |
| 2. By persons inclined to obesity, sedentary habits, and gouty disorders. | | "I have used the Hunyadi Janos water in many cases of the rheumatic and gouty diathesis with very marked benefit. In cases accompanied with great obesity I prefer it to any other laxative."—Prof. LEWIS A. SAYRE, M.D., "Bellevue Hospital, New York." "Preferred to Friedrichshall and Pulna by those who have tried them."—Prof. AITKEN, F.R.S., "Netley." "Of great use in catarrhal conditions of the pile-ducts and bowels, and for CONGESTION of the LIVER and OTHER ORGANS."—"Medical Times and Gazette." |
| 3. In chronic affections of the organs of Respiration and Circulation. | | "Produces remarkable relief in chronic diseases symptomatic of affections of the abdominal and thoracic organs, and in serous effusions with impediment of respiration and circulation."—Prof. ALOIS MARTIN, "Royal Medical Councillor, University of Munich." |
| 4. Against hæmorrhoids, and portal and hepatic congestion. | | "The most certain and the most comfortable in its action of all the aperient waters. The special indications for its use are, in costiveness (especially in that of pregnancy), in portal congestion with tendency to hæmorrhoids, and in sluggish action of the liver."—Inspector General MACPHERSON, M.D., Author of "Baths and Wells of Europe." |
| 5. During Pregnancy; for nursery use; and in many female disorders. | | "I prescribe none but this."—Baron v. SCANZONI "Wurzburg." "I prefer this to any and every other."—Dr. MARION SIMS, "New York. Honorary Fellow Obstetrical Society of London and Dublin." |
| 6. In bilious attacks and sick headaches. | | "I have made use of the Hunyadi Janos mineral water ever since its introduction into this country, and with ever increasing satisfaction. It is highly beneficial to persons of sedentary habit, and in what are called bilious attacks."—DR. SILVER, Lecturer on Clinical Medicine, Charing Cross Hospital. |
| 7. Against evil consequences of indiscretion in Diet. | | "Has invariably good and prompt success; a most valuable item in the balneological treasury."—Prof. VIRCHOW, Berlin. |

For ordinary aperient purposes a half wineglassful of the Hunyadi Water may be taken at bed-time, or a wineglassful taken in the morning fasting. It is most efficacious when warmed to a temperature not below 60 deg., or when an equal quantity of hot water is added to it.

**HUNYADI JANOS MINERAL WATER.**

INDISPENSABLE TO THE TRAVELLING PUBLIC.

To secure the genuine Water, require bottles with a blue label bearing the name,

The APOLLINARIS COMPANY, Limited, 19 Regent St., London, England.

Sole Agents for the United States **FREDK. DE BARY & CO.,** 41 and 43 Warren St., New York.

# CODMAN & SHURTLEFF'S

# ATOMIZING APPARATUS

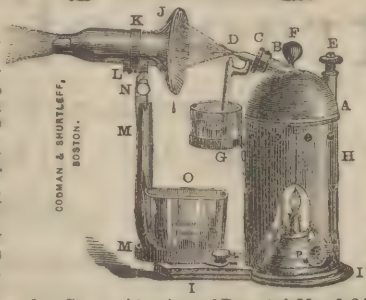
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All its joints are hard-soldered.

Every one is tested by hydrostatic pressure, to more than one hundred pounds to the square inch.

It cannot be injured by exhaustion of water, or any attainable pressure, and will last for many years.

It does not throw spirts of hot water; is convenient, durable, portable, compact, and cheap, in the best sense of the word. Price $5.00

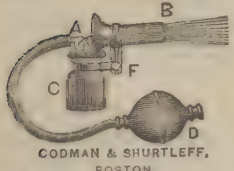



Postage 59c.

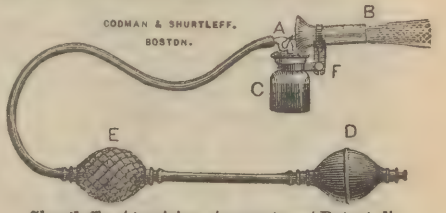
Brass parts, nickel-plated, additional, $2.00

Neatly made, strong Black walnut Box, with convenient Handle, additional, $2.50. Postage 44c.

*The Complete Steam Atomizer*—[*Patented March* 24, 1868].




*The Boston Atomizer*—[*Patented*].




*Shurtleff's Atomising Apparatus*—[*Patented*].

The most desirable Hand Apparatus. Rubber warranted of the very best quality. Valves imperishable, every one carefully fitted, and will work perfectly in all positions Price $3.50.

**The Bulbs are adapted to all the Atomizing tubes made by us.**

Each of the above Apparatus is supplied with two carefully-made annealed glass Atomizing Tubes, and accompained with directions for use. Each Apparatus is carefully packed for transportation, and warranted perfect.

The Anticeptic Atomizer, with Regulatiag self-acting cut-off, $15.00, $25.00, $45.00, and $50.00

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| **Atomizer by Compressed Air** | | 45.00 |
| **Dr. Oliver's Atomizer** | | 4.00 |
| **Dr. Clark's Atomizer** | (Postage 20c.) | 3.00 |
| **The Constant Atomizer** | " 20c. | 3.00 |
| **Dr. Knight's Atomizer** | " 12c. | 2.50 |
| **The Boston Atomizer (see cut)** | " 16c. | 2.50 |
| **Atomizing tubes in great variety** | | 25 cents to 15.00 |

**For full description see *New Pamphlet* on Atomization of Liquids with Formulæ of many articles of the Materia Medica successfully employed in the practice of a well-known American practitioner, together with descriptions of the best forms of apparatus, which will be sent, post-paid, on application.**

Plaster Bandages and Bandage Machines, Articles for Antiseptic Surgery, Aspirators, Clinical Thermometers, Crutches, Air Cushions, Wheel Chairs and Articles for Invalids, Mechanical Appliances for all deformities and deficiences, Trusses, Elastic Hose, etc. Electrical Instruments for all Medical and Surgical uses, Hypodermic Syringes, Ice and Hot Water Bags, Manikins, Models, Skeletons, Skulls, etc., etc. Naturalists' Instruments Sphygmographs, Splints and Fracture Apparatus, Stethoscopes, Syringes of all kinds, Teeth Forceps, Test Cases, Transfusion Instruments, French Rubber Urinals, Urinometers, Vaccine Virus, Veterinary Instruments, Waldenburg's Pneumatic Apparatus, etc., etc.

Surgical Instruments and Medical Appliances of every description promptly repaired.

Having our factory, with steam power, ample machinery, and experienced workmen, connected with our store, we can promptly make to order in the best manner, and from almost any material, new instruments and apparatus, and supply new inventions on favorable terms. Instruments bearing our name are fully warranted. With hardly an exception they are the product of our own factory, and made under our own personal supervision, by skilled workmen, who, being paid for their time, are not likely to slight their work through haste.

New Illustrated Catalogue *postpaid* on application:

**CODMAN & SHURTLEFF,**

Makers and Importers of Superior Surgical Instruments, etc., etc.,

13 and 15 Tremont Street, Boston.

OFFICE OF

# TROMMER

# Extract of Malt

## COMPANY,

## FREMONT, OHIO.

*FREMONT, OHIO, April,* 1878.

*DEAR SIR:—*

It is now five years since we first introduced and began the manufacture of Extract of Malt in the United States. It has been our aim to furnish the medical profession in America with a malt-extract equal to the best German make, and (by saving the expenses of importation) much cheaper than the foreign article can be afforded. For the manner in which our efforts have been appreciated by the medical profession, we desire to express our warmest thanks.

The difficulties attending the manufacture of Extract of Malt in large quantities, can be overcome only by that kind of skill which is acquired by experience. Its constituents must receive no injury by the process and good flavor and keeping quality, adapting it to all climates, must characterize the product. All are familiar with the striking difference between certain celebrated brands of ale and porter—and yet the poorest as well as the best, is, or should be, produced from barley malt and hops. Success greatly depends, of course, upon the employment of none but the best material; but it is by the use of specific and long tried procedures that results are obtained which are so difficult to rival.

We do ourselves but simple justice, in stating that our *entire attention* is and for many years has been, *exclusively* devoted to the manufacture of Extract of Malt for medical purposes, and that we give our undivided personal attention to each step in the delicate process by which Extract of Malt of excellent quality can alone be made.

Under these circumstances, it is unreasonable to suppose that the various manufacturers of fluid extracts, elixirs, pills, &c., who (attracted by the high reputation of our Extract of Malt) have recently, in various sections of the country, undertaken the manufacture of a similar article, should generally succeed in producing it of a quality according with the fulsome praise with which their advertisements are filled. While being perfectly willing to let the reputation of our Extract of Malt rest upon its real merits, we owe it to the medical profession, is well as to ourselves, to give warning against imposition.

It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the

substance called GRAPE SUGAR or MALTINE, which, as is well known is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugarhouse syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining *diastase*, which (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extrac.

It is *malt extract* prepared from Barley malt combined with the proper proportion of Hops, that has been for many years the standard medicinal-nutritive employed by the medical faculty of Europe, and especially of Germany. Its value has been established by experience, and its use in the treatment of almost all forms of disease of nutrition is constantly extending. We shall continue to devote the most scrupulous attention of the maintenance of the reputation of our malt extract, by the careful selection of material and by unwearied personal attention to manufacturing details.

Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very Respectfully,

TROMMER EXTRACT OF MALT CO.

---

[*From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. XVI, page* 474:]

"The Malt Extract prepared from Trommer's receipt is designed to fulfil much the same purpose as Cod-liver oil, carbo-hydrates (malt-sugar, dextrin,) taking the place of fatty matter. The simple (much or little hopped) and the Chalybeate form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer, or wine."

t.Jy-79.

TROMMERS'

# EXTRACT OF MALT.

The rapidly increasing demand for our Improved Extract of Malt, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expense of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The extract is prepared by an *improved process*, which prevents injury to its properties or flavor by excess of heat. IT REPRESENTS THE SOLUBLE CONSTITUENTS OF MALT AND HOPS, viz: Malt, sugar, dextrine, diastase, resin and bitter of hops, phosphates of lime and magnesia, and alkaline salts.

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO.:—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter [Diastase.] 2.469, Ash—Phosphates, 1.712. Alkalies .377; Water, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœa, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article

Yours truly. SILAS H DOUGLAS,
Prof. of Analytical and Applied Chemistry.

This invaluable preparation is highly recommended by the medical profession, as a most effective therapeutic agent, for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

The very large proportion of *Diastase* renders it most effective in those forms of disease originating in *imperfect digestion of the starchy elements* of food.

A single dose of the Improved Trommer's Extract of Malt, contains a larger quantity of the active properties of Malt, than a pint of the best ale or porter; and not having undergone fermentation, is absolutely free from alcohol and carbonic acid.

The dose for adults is from a dessert to a tablespoonful three times daily It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquor. Each bottle contains **1½ Lbs.** of the Extract.

*Our preparations of Malt are for sale by druggists generally throughout the United States and Canadas, at the following prices*

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|---|---|---|---|---|---|
| EXTRACT OF MALT, | *with* | *Hops, plain.* | | | $1 00 |
| " | " | " | " | *Pyrophosphate of Iron, Ferrated* | 1 00 |
| " | " | " | " | *Cod Liver Oil,* | 1 00 |
| " | " | " | " | *Cod Liver Oil and Iodide of Iron,* | 1 00 |
| " | " | " | " | *Cod Liver Oil and Phosphorus,* | 1 00 |
| " | " | " | " | *Hypophosphites,* | 1 50 |
| " | " | " | " | *Iodides* | 1 50 |
| " | " | " | " | *Alteratives,* | 1 50 |
| " | " | " | " | *Citrate of Iron and Quinia,* | 1 50 |
| " | " | " | " | *Pepsin,* | 1 50 |

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TROMMER EXTRACT OF MALT CO., - - - FREMONT, OHIO.

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# G. R. FINLAY & CO.,

IMPORTERS

AND

# WHOLESALE DRUGGISTS,

## No. 35 Magazine St. and 12 Bank Place,

## NEW ORLEANS, LA.

We keep constantly on hand a large and complete stock of

PURE **DRUGS** FRESH

bought exclusively for CASH, and are prepared to fill all orders entrusted to our care with accuracy and dispatch, and at the lowest possible market rates.

*We deal in none but*

**First Class Goods,**

*and all medicines sold by us are*

**GUARANTEED TO BE FRESH AND UNADULTERATED**

The success of the physician often depends on the quality of the drug prescribed by him, and we believe our patrons will bear us out in the assertion that the quality of the goods we supply cannot be surpassed.

We are Agents for some of the LARGEST MANUFACTURING ESTABLISHMENTS (both of this country and Europe) of

CHEMICALS,

PHARMACISTS' PREPARATIONS,

SURGICAL INSTRUMENTS AND APPLIANCES.

and all orders will be filled with attention to furnishing such manufactures as are designated. A full stock of

## Pure Liquors and Wines of all kinds

*are also kept on hand for medicinal purposes.*

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# I. L. LYONS,

(SUCCESSOR TO BALL, LYONS & CO.)

WHOLESALE

# Druggist and Pharmacist,

*40, 42, 44 CAMP and 111, 113, 115, 117 GRAVIER STS.,*

NEW ORLEANS, LA.

DEALER IN

## Drugs, Chemicals, Essential Oils,

*Chemical Apparatus, Surgical Instruments, Electric Apparatus, Medicine Chests, Saddle Bags, Trusses, Supporters, Silk Stockings, Sponges, and all articles used in Medicine and Surgery.*

**FINE WINES AND LIQUORS,**

*PERFUMERY, FANCY GOODS, PAINTS, OILS, DYE STUFFS, GLASS, ETC.;*

Importer of

*FRENCH, ENGLISH AND GERMAN DRUGS AND CHEMICALS.*

Importer of Swedish Leeches,
Importer of English Solid Extracts,
Importer of Battley's Liquor Opii Sed.,
Liquor Ergot, Cinchona, Buchu, Taraxacum, etc.,
Importer of French, English and German Proprietary Medicines, Perfumery and Drug Sundries

Only direct Importer in the South of Norwegian or Bergen Cod Liver Oil, White and Brown.

Agent for GEO. TIEMANN & CO.'S SURGICAL INSTRUMENTS,
*Which we Sell at Makers' Prices.*

Agent for W. R. WARNER & CO.'S SUGAR COATED PILLS

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Agent for

*JNO. WYETH & BRO'S FLUID EXTRACTS, ELIXIRS, WINES, DIALYSED IRON, COMPRESSED PILLS, &C., &C.*

Agent for

*DR. L. A. BABCOCK'S SILVER UTERINE SUPPORTER,*
*DR. McINTOSH'S UTERINE SUPPORTER,*
*DR. STEPHENSON'S UTERINE SUPPORTER.*

BLUE LICK, POLAND, BETHESDA AND BLADON WATER.

**Always in stock a full line of**

*CARPENTER'S, ELLIOT'S, ALOE & HERNSTEIN'S AND LESLIE'S SADDLE BAGS, FRESH HUMAN AND BOVINE VACCINE.*

The extensive Dispensing Department and complete Laboratory connected with my Wholesale Business enables me to give that careful attention to Physicians' Orders necessary to ensure filling them satisfactorily.

Having always exercised the greatest care in the selection of the crude materials employed, and making all pharmaceutical preparations of standard strength, in strict accordance with established and recognized formulas, I have earned and am entitled to the confidence of the profession.

**I. L. LYONS.**

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# Pharmaceutical and Medicinal Preparations

FROM LABORATORY OF

# I. L. LYONS,

(Successor to BALL, LYONS & CO.)

## Wholesale Druggist and Pharmacist,

**40, 42, 44 CAMP St. and 111, 113, 115, 117 GRAVIER St.**

*NEW ORLEANS, LA.*

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During my many years' experience I have always recognized the importance of establishing in our midst a LABORATORY which would enable Physicians to procure at home, with a guarantee of purity and reliability, the many, elegant and really scientific preparations which have of late years become so popular with practitioners and patients. Supplied with the MOST APPROVED APPARATUS, and in charge of intelligent and experienced pharmaceutists, I may justly claim the products of my laboratory to be excelled by none in the country, and to be far superior to most others of foreign manufacture. I cannot attempt here to enumerate all the extensive list of my preparations, and will only call attention to the leading ones, which have, by their absolute reliability, elicited the praise and approbation of the leading physicians in this city.

I also beg to add that I am prepared to manufacture at short notice any pharmaceutical preparation which physicians may be unable to procure elsewhere.

COD LIVER OIL with PHOSPHATE OF LIME;
COD LIVER OIL with LACTO-PHOSPHATE OF LIME;
COD LIVER OIL with SOLUBLE PHOSPHATE OF LIME;
COD LIVER OIL, FERRATED;
COD LIVER OIL, IODO-FERRATED;
COD LIVER OIL, PHOSPHORATED;
BERGEN COD LIVER OIL, WHITE;
BERGEN COD LIVER OIL, BROWN.

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***NUTRITIVE ELIXIR, (Beef, Cognac and Bitter Orange) NUTRITIVE ELIXIR, FERRATED, designed as SUBSTITUTES FOR DUCROS' ELIXIR, at more moderate prices.***

ELIXIR BISMUTH
ELIXIR CALISAYA and PYROPHOS. IRON.
ELIXIR CALISAYA, IRON and STRYCHNIA.
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ELIXIR PEPSINE.
ELIXIR PEPSINE and BISMUTH.
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ELIXIR VAL. AMMONIA
ELIXIR VAL. AMMONIA and QUININE.
ELIXIR GUARANA.
ELIXIR TARAX. COMP. for masking Quinine.

LIQUOR PEPSINE.
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SYRUP PHOSPHATES COMP.
SYRUP HYPOPHOPHITES COMP.
SYRUP LACTO-PHOSPHATE IRON.
SYRUP LACTO-PHOSPHATE LIME.
SYRUP IRON, free from taste and acid.
SYRUP PHOSPH. IRON, QUININE and STRYCHNIA.
SYRUP IOD. IRON and MANG.
SYRUP HYD. CHLORAL.
SYRUP LACTO-PHOS. LIME and PEPSINE.
SYRUP LACTO-PHOS. LIME and IRON
WINE, BEEF and IRON.
WINE, BEEF, IRON and CINCHONA.
WINE, PEPSINE.
WINE, IRON BITTER.
WINE CINCHONA, (Quinquina Robiquet.)
WINE CINCHONA. FERRUGINEUX (Quinquina Robiquet.)
WINE WILD CHERRY.
WINE WILD CHERRY, FERRATED.

FLUID EXTRACT ERGOT prepared from the selected grains, and all fluid Extracts of STANDARD STRENGTH.

All new and rare chemicals kept in stock.

**I. L. LYONS.**

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# The Practitioner's Reference Book,

ADAPTED TO THE USE OF

## THE PHYSICIAN, THE PHARMACIST, and the STUDENT.

**General Information for the Practitioner. Therapeutic and Practical Hints. How to conduct a Post-mortem Examination. Dietetic Rules and Precepts.**

BY RICHARD J DUNGLISON, M.D.

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From personal experience of the wants of the busy practitioner, the author is confident that a work of ready reference containing, in a compact and tangible shape, information of a purely practical character, will prove a desirable addition to his medical armamentarium The physician is frequently at a loss to know in what direction to look, in order to procure such facts and hints as are here collected, some of which are widely scattered through voluminous professional treatises or the—in many instances—inaccessible pages of medical periodicals; while the other original suggestions and precepts offered for his guidance will, it is believed, meet many of his daily needs. The cordial indorsement of the objects of the work, with which the author has already been favored by leading and active members of the profession, induces him to indulge the hope that it may become an indispensable companion as a handy-book for every-day consultation.

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*No. 25 South Sixth Street, Phila.*

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# E. SCHEFFER,

# APOTHECARY AND CHEMIST,

## 115 EAST MARKET, LOUISVILLE, KY.,

Manufactures by his Improved Method

## Saccharated Pepsin,

which has proven its superiority over other Pepsins by its greater strength, by its stability and uniformity, and by its almost entire tastelessness.

### CONCENTRATED DRY PEPSIN,

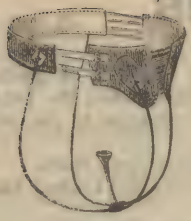
of which one grain digests 100 to 125 grains of coagulated albumen in 4 to 6 hours, and

### LIQUID PEPSIN,

of which one ounce dissolves 90 grains of albumen.

ALL ARTICLES WARRANTED.

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# DR. McINTOSH'S

# Natural Uterine Supporter.

No instrument has ever been placed before the medical profession which has given such universal satisfaction. The combination is such that the Physician is able to meet every indication of Uterine Displacements. Falling Womb, Anteversion, Retroversion and Flexions are overcome by this instrument, where others fail; this is proven by the fact that since its introduction to the Profession it has come into more general use than all other instruments combined.

Among the many reasons which recommend this Supporter to the Physician is its self-adjusting qualities. The Physician after applying it need have no fear that he will be called in haste to remove or readjust it as is often the case with rings and various pessaries held in position by presure against the vaginal wall, as the patient can remove it at will and replace it without assistance.

The Abdominal Supporter is a broad morroco leather belt with elastic straps to buckle around the hips, with concave front so shaped as to hold up the abdomen. The Uterine Support is a cup and stem made of highly polished hard rubber, very light and durable, shaped to fit the neck of the womb, with openings for the secretions to pass out, as shown by the cuts. Cups are made with extended lips to correct flexions and versions of the womb.

The cup and stem is suspended to the belt by two soft elastic Rubber Tubes, which are fastened to the front of the belt by simple loops, passed down through the stem of the cup and up to the back of the belt. These soft rubber tubes being elastic adapt themselves to all the varying positions of the body and perform the service of ligaments of the womb.

The instrument is very comfortable to the patient, can be removed or replaced by her at will, can be worn at all times, will not interfere with nature's necessities, will not corrode, and is lighter than metal. It will answer for all cases of Anteversion, Retroversions, or any Flexions of the Womb, and is used by the leading Physicians with never failing success even in the most difficult cases.

**Price—to Physicians $8.00; to Patients, $12.00.**

Instruments sent by mail, at our risk, on receipt of Price, with 16 cents added for postage, or by Express, C. O. D.

## Dr. McINTOSH'S NATURAL UTERINE SUPPORTER CO.

*192 Jackson Street, Chicago, Ill.*

Our valuable pamphlet "Some Practical Facts about Displacements of the Womb," will be sent you free on application.

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INTERNATIONAL EXHIBITION, PHILADELPHIA, 1876.

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**For "General Excellence in Manufacture."**

## H. PLANTEN & SON,

224 WILLIAM ST., *(Established* 1836.) NEW YORK.

# GELATINE CAPSULES,

OF ALL KINDS.

***Also, EMPTY CAPSULES—5 SIZES,***

For the easy administration of nauseous medicinal preparations.

☞SOLE AGENTS FOR BLAIR'S GOUT AND RHEUMATIC PILLS.

Samples and Price Lists sent on application. Sold by all Druggists.

C jy.1y.

# TO PHYSICIANS.

THE scarcity and high prices of Cinchona barks and Sulphate of Quinia, and the prospect of only a slight reduction in these prices, makes the present a favorable opportunity of calling the attention of the profession to the *combination of all the bark alkaloids.*

Much attention has been given to this subject in Europe and India.

The growing appreciation by the medical profession of the United States of

## CINCHO-QUININE

is due to the fact that it retains the important alkaloids IN COMBINATION, — a combination which in practice is *preferable to perfect isolation or separation* of these alkaloids.

In addition to its superior efficacy as a tonic and anti-periodic, it has the following advantages, which greatly increase its value to physicians: —

1st, *It exerts the full therapeutic influence of* Sulphate of Quinine, *in the same doses*, without oppressing the stomach, creating nausea, or producing cerebral distress, as the Sulphate of Quinine frequently does; and it produces much less constitutional disturbance.

2d. It has the great advantage of being *nearly tasteless.* The bitter is very slight, and not unpleasant to the most sensitive, delicate woman or child.

3d, It is *less costly*: the price will fluctuate with the rise and fall of barks, but will always be much less than the Sulphate of Quinine.

4th, It meets indications not met by that Salt.

*The following well-known Analytical Chemists say: —*

"UNIVERSITY OF PENNSYLVANIA, Jan. 22, 1875.
"I have tested CINCHO-QUININE, and have found it to contain *quinine, quinidine, cinchonine, cinchonidine.*
F. A. GENTH,
*Professor of Chemistry and Mineralogy.*"

"LABORATORY OF THE UNIVERSITY OF CHICAGO, Feb. 1, 1875.
"I hereby certify that I have made a chemical examination of the contents of a bottle of CINCHO-QUININE and by direction I made a qualitative examination for *quinine, quinidine,* and *cinchonine,* and hereby certify that I found these alkaloids in CINCHO-QUININE.
C. GILBERT WHEELER,
*Professor of Chemistry.*"

"I have made a careful analysis of the contents of a bottle of your CINCHO-QUININE, and find it to contain *quinine, quinidine, cinchonine,* and *cinchonidine.*
S. P. SHARPLES, *State Assayer of Mass.*"

## TESTIMONIALS.

"WELLFLEET, MASS., Nov. 17, 1876.
"I have used CINCHO-QUININE, and can say without any hesitation it has proved superior to the sulphate of quinine. J. G. JOHNSON, M.D."

"MARTINSBURG, MO., Aug. 15, 1876.
"I use the CINCHO-QUININE altogether among children, preferring it to the sulphate.
DR. E. R. DOUGLASS."

"LIVERPOOL, PENN., June 1, 1876.
"I have used CINCHO-QUININE, obtaining better results than from the sulphate in those cases in which quinine is indicated.
DR. I. C. BARLOTT."

"RENFROW'S STATION, TENN., July 4, 1876.
"I am well pleased with the CINCHO-QUININE, and think it is a better preparation than the sulphate. W. H. HALBERT."

"ST. LOUIS, MO., April, 1875.
"I regard it as one of the most valuable additions ever made to our materia medica.
GEORGE C. PITZER, M.D."

"RICHMOND, VA., March 28, 1877.
"I believe that the *combination* of the several cinchona alkaloids is more generally useful in practice than the sulphate of quinine uncombined.
"Yours truly, LANDON B. EDWARDS, M.D.
*Member Va. State Board of Health, and Sec'y and Treas. Medical Society of Va.*"

"CENTREVILLE, MICH.
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## CITY OF NEW YORK.

## MEMBER OF THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

## SESSIONS OF 1879-1880.

THE COLLEGIATE YEAR in this Institution embraces a preliminary Autumnal Term, the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1879-'80 will begin on Wednesday, September 17th, 1879, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures upon special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty, in the same number and order as during the Regular Session. Students expecting to attend the Regular Session are recommended to attend the Preliminary Term, but such attendance is not required.

THE REGULAR SESSION will begin on Wednesday, October 1st, 1879, and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction.

THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College Building.

## FACULTY:

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Emeritus Professor of Obstetrics and Diseases of Women, and President of the Faculty.

### JAMES R. WOOD, M. D., LL. D.,

Emeritus Professor of Surgery.

### FORDYCE BARKER, M. D., LL. D.,

Professor of Clinical Midwifery and Diseases of Women.

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AUSTIN FLINT, M. D.,
Professor of the Principles and Practice of Medicine and Clinical Medicine.

W. H. VAN BUREN, M. D.,
Professor of Principles and Practice of Surgery, Diseases of Genito-Urinary System, and Clinical Surgery.

LEWIS A. SAYRE, M. D.,
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ALEXANDER B. MOTT, M. D.,
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A. A. SMITH, M. D.,
Lecturer on Materia Medica and Therapeutics, and Clinical Medicine.

AUSTIN FLINT, Jr., M. D.,
Professor of Physiology and Physiological Anatomy, and Secretary of the Faculty.

JOSEPH D. BRYANT, M. D.,
Professor of General, Descriptive and Surgical Anatomy

R. OGDEN DOREMUS, M. D., LL. D.,
Professor of Chemistry and Toxicology.

EDWARD G. JANEWAY, M. D.,
Professor of Pathological Anatomy and Histology, Diseases of the Nervous System, and Clinical Medicine.

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J. LEWIS SMITH, M. D.,
Clinical Professor of Diseases of Children.

EDWARD L. KEYES, M. D.,
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JOHN P. GRAY, M. D., LL. D.,
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LEROY MILTON YALE, M. D.,
Lecturer Adjunct upon Orthopedic Surgery.

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Demonstrators of Anatomy.

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### FEES FOR THE REGULAR SESSION:

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| Fees for Tickets to all Lectures during the Preliminary and Regular Term, including Clinical Lectures | $140 00 |
| Matriculation Fee | 5 00 |
| Dissection Fee (including material for dissection) | 10 00 |
| Graduation Fee | 30 00 |

### FEES FOR THE SPRING SESSION:

| | |
|---|---|
| Matriculation (Ticket valid for the following Winter) | $ 5 00 |
| Recitations, Clinics, and Lectures | 35 00 |
| Dissection (Tickets valid for the following Winter) | 10 00 |

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S. D. GROSS, M.D., LL.D., D.C.L. Oxon.
Institutes and Practice of Surgery.

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Obstetrics and Diseases of Women and Children.

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Practice of Medicine.

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Institutes of Medicine and Medical Jurisprudence.

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FIRST—In the manufacture of MALTINE, the evaporation necessary to reduce it to its great density is conducted in vacuo, at a temperature ranging from 100° to 120° Fahr.; while most manufacturers of Extract of Malt resort to "open pan" or low pressure steam boiling, by neither of which processes can the extract be so produced as to preserve the Diastase, Phosphates and Albuminoids on which its remedial value so greatly depends, and the product is either of a dark color or of low specific gravity, possessing little virtue aside from the saccharine matter which it contains.*

SECOND—Carbon, Hydrogen, Nitrogen, Phosphorus, Sulphur, Iron, Magnesium and Potassium are essential elements in the food of man, and it is only in MALTINE, containing the combined properties of malted BARLEY, WHEAT and OATS, that all these principles can be found in the proper proportions; Extract of Malt made from BARLEY ALONE is wanting in some of the most important of these elements.

THIRD—GLUTEN is the most nutritious principle found in the cereals, and is the only vegetable substance which will, alone, support life for any great length of time. It is composed of three distinct nitrogenous principles, together with fatty and inorganic matters, and is analogous to animal fibrin. MALTINE contains twenty times the quantity of GLUTEN found in any Extract of Malt.

FOURTH—LEIBIG says: "Wheat and Oats stand first among our list of cereals in combining all the elements in proportions necessary to support animal life. They are especially rich in muscular and fat producing elements." The only reason we use Malted Barley in the manufacture of MALTINE is that it contains larger proportions of mineral matters (bone producers) and Diastase. It is deficient in all other essential elements.

*We believe that any practitioner will readily recognize the superiority of MALTINE, and would request a trial and comparison of merits with any article offered for similar uses.*

*As a sure test for Diastase, and the Albuminoids, a small quantity should be put in a test tube or small vial, largely diluted with Water, and heated to the boiling point, when the Albumen, if present, will coagulate, and appear in little floculent particles throughout the liquid. If the extract remains clear, it is proof that it has already been coagulated by excessive heat, and removed by filtration during the process of manufacturing. Any eat which will coagulate Albumen will inevitably destroy the digestive power of Diastase.

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*can undoubtedly be used with greater success than any other remedy now known, in cases of General and Nervous Debility, Indigestion, Imperfect Nutrition and Deficient Lactation; Pulmonary Affections, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membranes and Difficult Expectoration; Cholera Infantum and Wasting Diseases of Children and Adults; Convalescence from Fevers, and whenever it is necessary to increase the vital forces and build up the system.*

WE MANUFACTURE THE FOLLOWING PREPARATIONS, THE FORMULAS AND DOSES OF WHICH ARE GIVEN IN OUR DOSE BOOKS AND ON THE LABEL ATTACHED TO EACH BOTTLE:

## MALTINE WITH HOPS.

## MALTINE, FERRATED:

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## MALTINE WITH BEEF AND IRON:

One of the most valuable combinations in cases of General Debility, when there is deficient nutrition and a deficiency of Iron in the system,

## MALTINE WITH ALTERATIVES:

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## MALTO-YERBINE:

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With the nutritive, emollient, and demulcent propeoties of MALTINE and CARRAGEEN, and the expectorant qualities of YERBINE, (active principle of Yerba Santa), we offer this preparation to the Profession with the fullest confidence that it is the most perfect remedy yet produced in Chronic Pulmonary Affections, Irritation of the Mucous Membrane, Difficult Expectoration, Bronchitis, and ordinary Coughs and Colds.

The dose of all preparations of MALTINE and compounds is from a dessert to a tablespoonful

We also manufacture a perfectly prepared EXTRACT OF MALT, from *Barley only*.

MALTINE preparations are sold at the same prices as EXTRACT OF MALT and its combinations, and are put up in half-pint, pint and five-pint amber bottles; each bottle enclosed in a folding paper box.

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# DEXTRO-QUININE IN INTERMITTENT FEVER.

| Case. | Name and Sex of Patient | Age, etc. | Number of Paroxysms before taking. | Number of Paroxysms after. | Dose and Mode of Exhibition. | Total Amount Exhibited. | Remarks, Pathological and Physiological Phenomena, etc. | Reported by |
|---|---|---|---|---|---|---|---|---|
| 1 | J. S. S. | 27 | 14 | 0 | 10 grs. at bedtime. | 30 grs. | I have found Dextro-Quinine fully equal to the Sulphate of Quinia, with almost none of the disagreeable symptoms of the latter. | F. C. Hageman, M. D., Seaford, L. I. |
| 2 | D. V. W. | 14 | 5 | 0 | 8 grs. at bedtime. | 24 grs. | | |
| 3 | Emma L. | 16 | 60 or more | 0 | 5 grs. every three hours, in glycerine, without intermission, only during febrile exacerbations, etc. | 30 grs. | Patient was very much prostrated with typho-malarial fever; been under the care of another physician; was called in on the third week. I then prescribed 5 grs. of Dextro-Quinine every three hours, in glycerine, when, as it were by magic, all the grave symptoms abated at once, and the patient made rapid recovery. | Alex. F. Joseph, M. D., Napoleon, Ind. |
| 1 | Mrs. S., *Double Quotidian.* Had taken large doses Cinchonidia sulphate without effect. | 22 Brunette. Married. No children. | 6 | 0 | 20 grs, divided into chart. No. v. one every two hours. | 20 grs. | Had first paroxysm Nov. 20, 6 A. M., again at 4 P. M. Prescribed Cinchonidia sulphate, grs. xxx., chart. No. v. One to be taken every two hours.<br>Nov. 21. Return of paroxysm at 6 A. M., and 4 P. M. Gave Cinchonidia sulphate, grs. xiv. chart. No. v. One to be taken every two hours.<br>Nov. 22. Return of paroxysm at same time as on preceding days. Prescribed Dextro-Quinine. grs. xx, chart. No. v. One to be taken every two hours. No return of chill since that date, and highly pleased with my experience. | N. H. Manring, M. D. Rigdon, Ind. |
| 15 | I. de L., female. *Tertian.* Habituated to Quinia. | 19 Married. | 2 | 0 | 15 grs. in 3 doses of 5 grs. taken at intervals of ½ hour, commencing four hours before expected paroxysm. Taken in capsule. | 15 grs. | Dilatation of pupil; tinnitus aurium severe, but not so much so as on former occasions when Sulphate of Quinia was used. Directed her to take 10 grains on the third day, but she did not do so. Twelve days have elapsed without return of chills. Is taking citrate of iron and strychnia. | Frank S. James, Ph. D., M. D., Osceola, Ark. |
| 16 | Jennie S., colored. *Quotidian.* Has "used Quinine and everything else," as she herself expressed it. | 25 Married. | Unknown, but a very large number. | 1 | 16 grs. in 4 doses, in capsule, with 1-16 gr. Morphacet., to be taken at ½ hour intervals, commencing four hours before expected paroxysm | 48 grs. | On first evening after exhibition of Dextro-Quinine had a very slight ague, followed by considerable fever, which, however, soon passed off. Gave Hydrarg. Chlor. Mite, grs. x, at bedtime, which caused three or four operations of the bowels. The Dextro-Quinine was continued the next day. *Missed chill for first time in over a month.* Thought it best to continue medicine (without Morphia) another day. Has had no return up to to-day (10 days). Did not complain of tinnitus. | Frank S. James, Ph. D., M. D., Osceola, Ark. |
| 5 | Mary B. | 3½ | 3 | 0 | 1 gr., in solution, every three hours. | 16 grs. | Commenced Dextro-Quinine just after last paroxysm; it acted excellently. It is now more than four weeks since she took the remedy; there has been no return. She is now in the enjoyment of good health. | G. H. Berry, M. D., New York City. |
| 6 | Edward Libby, *Tertian.* | 24 | 9 or 10 | 0 | Two 12-grain doses at half-hour intervals. | 24 grs. | Had been taken Sulphate of Quinia in 5 gr. doses for some time with little or no effect. Has had no chill since the Dextro-Quinine was administered (more than a month having elapsed), and the result is entirely satisfactory. | H. A. Weymouth, M. D., Saco, Me. |
| 11 | Mary Cavanough. *Quotidian.* | 3 | One a day for six months. | 0 | 2 grs., in powder, every two to three hours. | 15 grs. | Little girl had been complaining with chills and fever for over six months; had used Sulphate of Quinia, Tincture Chinchona, Chinco-Quinine, etc. *Had taken great quantities of Sulphate of Quinia, without effecting a cure. I gave in all about 15 grs. of Dextro-Quinine, and she never has had any chill since.*<br>This one case in particular I think a remarkable one. The little girl had had chills regularly almost every day for six months; had been treated by two physicians, and a cure could not be effected, as they and the family thought, under any circumstances. I was called directly after, and gave 2 grs. *Dextro-Quinine* in powder, every two to three hours, and to my great surprise, as well as every one else's she failed to have any more chills. I then put her on a tonic of iron, and she is now enjoying good health.<br>I consider the Dextro-Quinine far superior to any of the preparations of Quinine, and from what I have seen of its medicinal effects, I do not hesitate to recommend it as superior to all other remedies in Remittent and Intermittent Fevers. | J. H. Struble, M. D., Stanhope, N. J. |

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*can undoubtedly be used with greater success than any other remedy now known, in cases of General and Nervous Debility, Indigestion, Imperfect Nutrition and Deficient Lactation; Pulmonary Affections, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membranes and Difficult Expectoration; Cholera Infantum and Wasting Diseases of Children and Adults; Convalescence from Fevers, and whenever it is necessary to increase the vital forces and build up the system.*

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|---|---|---|---|---|---|---|---|---|
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| 2 | D. V. W. | 14 | 5 | 0 | 8 grs. at bedtime. | 24 grs. | | |
| 3 | Emma L. | 10 | 60 or more | 0 | 5 grs. every three hours, in glycerine, without intermission, only during febrile exacerbations, etc. | 30 grs. | Patient was very much prostrated with typho-malarial fever; been under the care of another physician; was called in on the third week. I then prescribed 5 grs. of Dextro-Quinine every three hours, in glycerine, when, as it were by magic, all the grave symptoms abated at once, and the patient made rapid recovery. | Alex. F. Joseph, M. D. Napoleon, Ind. |
| 4 | Mrs. S., *Double Quotidian.* Had taken large doses Cinchonidia sulphate without effect. | 22 Brunette. Married. No children. | 6 | 0 | 20 grs. divided into chart. No. v. one every two hours. | 20 grs. | Had first paroxysm Nov. 20, 6 A. M., again at 4 P. M. Prescribed Cinchonidia sulphate, grs. xxx., chart. No. v. One to be taken every two hours.<br>Nov. 21. Return of paroxysm at 6 A. M, and 4 P. M. Gave Cinchonidia sulphate, grs. xiv. chart. No. v. One to be taken every two hours.<br>Nov. 22. Return of paroxysm at same time as on preceding days. Prescribed Dextro-Quinine, grs. xx, chart. No. v. One to be taken every two hours. No return of chill since that date, and highly pleased with my experience. | N. H. Manring, M. D. Rigdon, Ind. |
| 15 | I. de L., female. *Tertian.* Habituated to Quinia. | 19 Married | 2 | 0 | 15 grs. in 3 doses of 5 grs. taken at intervals of ½ hour, commencing four hours before expected paroxysm. Taken in capsule. | 15 grs. | Dilatation of pupil; tinnitus aurium severe, but not so much so as on former occasions when Sulphate of Quinia was used. Directed her to take 10 grains on the third day, but she did not do so. Twelve days have elapsed without return of chills. Is taking citrate of iron and strychnia. | Frank S. James, Ph. D., M. D., Osceola, Ark. |
| 16 | Jennie S., colored. *Quotidian.* Has "used Quinine and everything else," as she herself expressed it. | 25 Married. | Unknown, but a very large number. | 1 | 16 grs. in 4 doses, in capsule, with 1-16 gr. Morphacet., to be taken at ½ hour intervals, commencing four hours before expected paroxysm. | 48 grs. | On first evening after exhibition of Dextro-Quinine had a very slight ague, followed by considerable fever, which, however, soon passed off. Gave Hydrarg. Chlor. Mite, grs. x, at bedtime, which caused three or four operations of the bowels. The Dextro-Quinine was continued the next day. *Missed chill for first time in over a month.* Thought it best to continue medicine (without Morphia) another day. Has had no return up to to-day (10 days). Did not complain of tinnitus. | Frank S. James, Ph. D., M. D., Osceola, Ark. |
| 5 | Mary B. | 3½ | 3 | 0 | 1 gr., in solution, every three hours. | 16 grs. | Commenced Dextro-Quinine just after last paroxysm; it acted excellently. It is now more than four weeks since she took the remedy; there has been no return. She is now in the enjoyment of good health. | G. H. Berry, M. D., New York City. |
| 6 | Edward Libby, *Tertian.* | 24 | 9 or 10 | 0 | Two 12 grain doses at half-hour intervals. | 24 grs. | Had been taken Sulphate of Quinia in 5 gr. doses for some time with little or no effect. Has had no chill since the Dextro-Quinine was administered (more than a month having elapsed), and the result is entirely satisfactory. | H. A. Weymouth, M. D., Saco, Me. |
| 11 | Mary Cavanough. *Quotidian.* | 3 | One a day for six months. | 0 | 2 grs., in powder, every two to three hours. | 15 grs. | Little girl had been complaining with chills and fever for over six months; had used Sulphate of Quinia, Tincture Chinchona, Chinco-Quinine, etc. *Had taken great quantities of Sulphate of Quinia, without effecting a cure. I gave in all about 15 grs. of Dextro-Quinine, and she never has had any chill since.*<br>This one case in particular I think a remarkable one. The little girl had had chills regularly almost every day for six months; had been treated by two physicians, and a cure could not be effected, as they and the family thought, under any circumstances. I was called directly after, and gave 2 grs. *Dextro-Quinine* in powder, every two to three hours, and to my great surprise, as well as every one else's she failed to have any more chills. I then put her on a tonic of iron, and she is now enjoying good health.<br>I consider the Dextro-Quinine far superior to any of the preparations of Quinine, and from what I have seen of its medicinal effects, I do not hesitate to recommend it as superior to all other remedies in Remittent and Intermittent Fevers. | J. H. Struble, M. D., Stanhope, N. J. |

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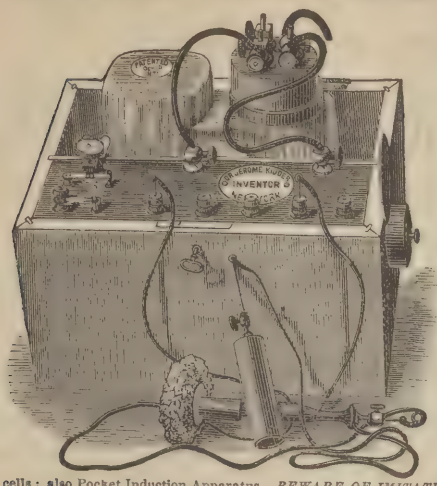
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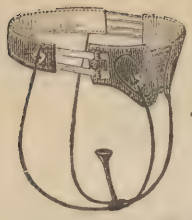
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THE PRELIMINARY AUTUMNAL TERM for 1879-'80 will begin on Wednesday, September 17th, 1879, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures upon special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty, in the same number and order as during the Regular Session. Students expecting to attend the Regular Session are recommended to attend the Preliminary Term, but such attendance is not required.

THE REGULAR SESSION will begin on Wednesday, October 1st, 1879, and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College Building.

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| Dissection Fee (including material for dissection) | 10 00 |
| Graduation Fee | 30 00 |

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| Recitations, Clinics, and Lectures | 35 00 |
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## THE USE OF DEXTRO-QUININE IN INTERMITTENT FEVER.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 170 | DA. G., male, farmer. Had taken Quinine, Cinchonidia, Arsenic and a number of different chill mixtures, prescribed by as many different doctors, besides various patent medicines; all with no result. Never had a chill after the first dose of *Dextro-Quinine.* | 28 | 18 months regularly, all types. | 0 | 5 grs. every four hours throughout the day, before the expected chill followed by use of ferruginous preparations. | 60 grs. | This gentleman had had chills for 18 months, a relapse from a Remittent fever during the Summer. He had chills in all of its forms. Had taken Quinine, Arsenic, and several different chill mixtures prepared by as many different doctors, and various patent medicines but all to no effect, still the chill would come. When I received the sample of *Dextro-Quinine* I thought that this would be as good a case as I could get to try the merits of the preparation. I gave him 5 grs. every four hours, beginning the day before the chill was expected, and he has never had another chill from that day to this, four months. He has performed daily labor every day on the farm since that day. It is needless to say that I followed up the treatment with ferruginous preparations. I look upon the *Dextro-Quinine* as doing the work. I think it an excellent remedy and would advise all physicians to give it a trial in such cases. Sent other reports two months ago. | Jno. G. Gunn, M. D., Noxupater, Miss. |
| 171 | Eve Page, female. | 35 | Chill every month for 3 months. | 1 | One 2 gr. pill every two hours till six pills or 12 grs. are taken. | 24 grs. | I found nothing unusual in this case and the *Dextro-Quinine* has the reputation of breaking these chronic chills. | T. W. Wright M. D., Pickens Miss. |
| 172 | A. B., female Child | | From 2 weeks to 6 months. | 1 | 2 to 5 grains. | 15 grs. | About the same as Sulphate of Quinine, except when given in large doses, does not cause the fullness of the head, and buzzing of the ears as large doses of Quinine does sometimes. | D. C. Hardman. M. D., Cherry Grove Grant County, Ark. |
| 173 | A. B., male. | Adult | | | | 40 grs. | | |
| 174 | Miss A. *Terrian.* | 20 | Regularly for 6 months. | 0 | Three doses of 5 grains each. | 15 grs. | This case (an old chronic case) never had a chill after the first dose of *Dextro-Quinine* I have also treated many children with like effect. | |
| 175 | Mr. X. *Terrian* | Adult. | Regularly for 8 months. | 0 | 20 two gr. pills. given as usual. | 40 grs. | I gave 20 pills to an old chronic case who lived 30 miles away; and learn he never had another chill and is now well. | |
| 176 | Mrs. G., married, no children | 36 | 7 | 1 Slight. | 4 doses of 4 grs. each, 2 hours apart; repeated the same next day. | 32 g s. | The patient could not take quinine in any form on account of the great disturbance occasioned to the stomach and head. Tried various patent medicines without result, excepting to sicken the stomach. We could not get anything to stay on the stomach until we tried *Dextro-Quinine* which acted admirably. It did not effect either the head or stomach nor has there been any return of paroxysms. | C. S Vance, M. D. Mars'hl Ark. |

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We do ourselves but simple justice, in stating that our *entire attention* is and for many years has been, *exclusively* devoted to the manufacture of Extract of Malt for medical purposes, and that we give our undivided personal attention to each step in the delicate process by which Extract of Malt of excellent quality can alone be made.

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It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the

substance called GRAPE SUGAR or MALTINE, which, as is well known is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugarhouse syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining *diastase*, which (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extrac.

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Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

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[*From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. XVI, page* 474:]

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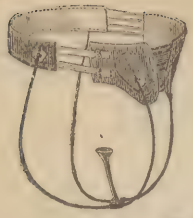
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THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College Building.

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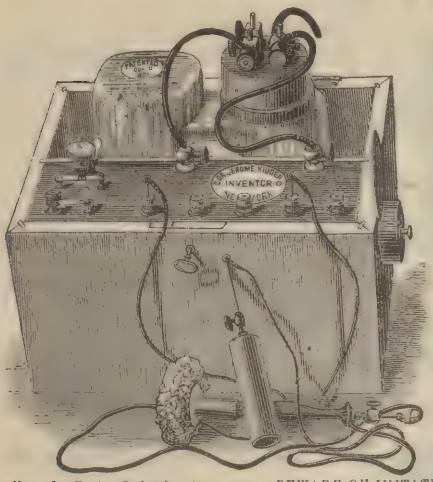
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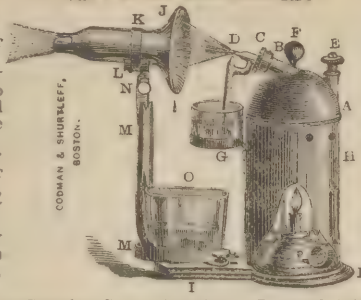
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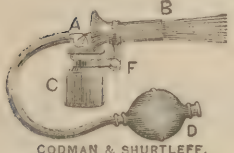



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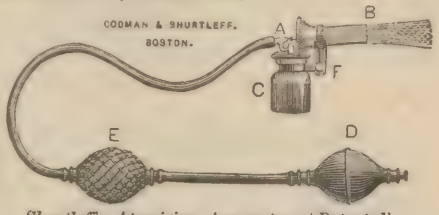
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The great necessity for a fluid food that would possess all the elements necessary for the support of the system having been long felt by the Medical Profession, we call attention to this preparation, containing the *entire nutritious properties* of the muscular fibre, blood, bone and brain of a healthy bullock, dissolved by aid of heat and pepsin, and preserved by spirit; thus constituting a perfect nutritive, reconstructive tonic.

It is not a mere stimulant, like the now fashionable extracts of beef, but contains blood-making, force-generating and life sustaining properties, pre-eminently calculated to support the system under the exhausting and wasting process of fevers and other acute diseases, and to rebuild and recruit the tissues and forces, whether lost in the destructive march of such affections, or induced by over-work, general debility, or the more tedious forms of chronic disease. It is friendly and helpful to the most delicate stomach, and where there is a fair remnant to build on, will reconstruct the most shattered and enfeebled constitution. It is entirely free from any drugs. Dispensed in 16 oz. bottles.

## "DR. MENSMAN'S BEEF TONIC

"Is a complete representative of lean and fat beef, bone, blood and muscle. It consists of all the properties which combine in the development of the animal body, which are liquefied by an artificial process, stimulating natural digestion, and retaining all of their alimentary values. It contains in their perfection all the natural elements of the meat in their natural quantitative relations, without their extraneous or indigestible properties, and therefore requiring the least possible effort on the part of the stomach for its conversion into chyle, and its immediate absorption by the system.

"This tonic is free from any drugs or chemicals, and is a great invigorator and recuperant. I have used this preparation in several cases of sickness of a character which enables me to give the most favorable opinion of its great value, in extreme sickness. Some of the cases referred to are hemorrhage of the bowels, typhoid fever, bilious fever, inflammation of the bowels, where the greatest possible prostration was present, and in which I found this meat tonic to accomplish results I could not obtain with any other preparation. It is a gentle stimulant, and allays the peculiar irritation of the stomach, which destroys the appetite in all forms of disease, when the tone of the stomach is destroyed."

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Prof. Parker, of New York, says: "I have tried almost every other manufacturer's Oil, and give yours the decided preference.

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This article has a splendid reputation; its characteristic action is not impaired by age in any climate. The whole fly is incorporated, which by constant manipulation is thoroughly and beautifully combined with the plaster. *Its properties are developed quicker, and it blisters in less time than the cerate.*.

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## SEVENTY-THIRD SESSION, 1879-'80.

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WILLARD PARKER, M.D., Professor of Clinical Surgery
JOHN C. DALTON, M.D., Professor of Physiology and Hygiene.
THOMAS M. MARKOE, M.D., Professor of Surgery.
T. GAILLARD THOMAS, M.D., Professor of Gynæcology.
JOHN T. METCALFE, M.D., Emeritus Professor of Clinical Medicine.
HENRY B. SANDS, M.D., Professor of the Practice of Surgery.
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THOMAS T. SABINE, M.D., Professor of Anatomy.
CHARLES F. CHANDLER, Ph. D., Professor of Chemistry and Medical Jurisprudence.
EDWARD CURTIS, M.D., Professor of Materia Medica and Therapeutics.
FRANCIS DELAFIELD, M.D., Adjunct Professor of Pathology and Practical Medicine.
JOHN G. CURTIS, M.D., Adjunct Professor of Physiology and Hygiene; Seccetary of the Faculty.
WM. DETMOLD, M.D., Emeritus Professor of Military and Clinical Surgery.
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FRANCIS DELAFIELD, M.D.,
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GEORGE G. WHEELOCK, M.D., Lecturer on Physical Diagnosis.
ROBERT F. WEIR, M.D., Lecturer on Diseases of the Genito-Urinary Organs.
H. KNAPP, M.D., Lecturer on Diseases of the Eye and Ear.
T. A. McBRIDE, M.D. Lecturer on Symptomatology.
CHARLES McBURNEY, Lecturer on the Anatomy of the Nerves.

THE COLLEGIATE YEAR embraces a special *Spring* and a regular *Winter* Session, attendance at the latter only being required for the graduating course. The Spring Session begins in March, and continues till June 1st. The *Regular Winter Session* for 1879-80 begins October 1st, and continues till March.

TUITION is by the following methods:—

I. DIDACTIC LECTURES—During the *Winter Session* from five to six lectures are given daily by the Faculty. Attendance obligatory. During the *Spring Session* two lectures are given daily by the Faculty of the Spring Session. Attendance optional.

II. CLINICAL TEACHING—Ten Clinics, covering all departments of Medicine and Surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue, Charity, New York and Roosevelt Hospitals, the New York Eye and Ear Infirmary, etc.) as a regular feature of the College curriculum. Attendance optional.

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For the Annual Catalogue and Announcement, or for further information, address JOHN G. CURTIS, M.D., Secretary of the Faculty, College of Physicians and Surgeons, corner of Twenty-Third Street and Fourth Avenue, New York.

jy.3t.

# University of the City of New York.

## MEDICAL DEPARTMENT.

*410 East Twenty-Sixth St., opposite Bellevue Hospital, New York.*

### THIRTY-NINTH SESSION, 1879-'80.

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ALFRED C. POST, M.D., LL.D., Emeritus Professor of Clinical Surgery; President of the Faculty.
CHARLES INSLEE PARDEE, M.D., Professor of Diseases of the Ear; Dean of the Faculty.
JOHN T. DARBY, M.D., Emeritus Professor of Surgery.
JOHN C. DRAPER, M.D., LL.D., Professor of Chemistry.
ALFRED L. LOOMIS, M.D., Professor of Pathology and Practice of Medicine.
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WILLIAM H. THOMSON, M.D., Professor of Materia Medica and Therapeutics.
J. W. S. ARNOLD, M.D., Professor of Physiology and Histology.
J. WILLISTON WRIGHT, M.D., Professor of Surgery.
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THE COLLEGIATE YEAR is divided into three Sessions: A Preliminary Session, a Regular Winter Session, and a Spring Session.

THE PRELIMINARY SESSION will commence September 17, 1879, and will continue until the opening of the Regular Winter Session. It will be conducted on the plan of that Session.

THE REGULAR WINTER SESSION will commence on the first of October, 1879, and end about the first of March, 1880.

The location of the new College edifice being immediately opposite the gate of Bellevue Hospital, and a few steps from the ferry to Charity Hospital, Blackwell's Island, the Students of the University Medical College are entabled to enjoy the advantages afforded by these Hospitals with the least possible loss of time. The Professors of the practical Chairs are connected with the Hospitals, and the University Students are admitted to *all the Clinics* given therein, *free of charge.*

In addition to the daily Hospital Clinics, there are eight Clinics each week in the College building. Five Didactic Lectures will be given daily in the College building, and Evening Recitations will be conducted by the Professors of Chemistry, Practice, Anatomy, Materia Medica, etc., Physiology, Surgery, and Obstetrics, upon the subjects of their lectures.

THE SPRING SESSION embraces a period of twelve weeks, beginning in the first week of March, and ending the last week of May. The daily Clinics, Recitations, and Special Practical Courses, will be the same as in the Winter Session, and there will be Lectures on Special Subjects by the members of the Post-Graduate Faculty.

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STUDENTS WHO HAVE STUDIED TWO YEARS, and who have attended two full Courses of Lectures, may be admitted to examination in Chemistry, Anatomy, and Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, Materia Medica and Therapeutics, Surgery, and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

### FEES:

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| For Course of Lectures | $140 00 |
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We can also furnish, to those who prefer it, HUMANIZED VIRUS, from healthy children procured for us by physicians of undoubted reliability.

All our Virus is put up in strong, *air-tight, sealed packages*, for safe conveyance by mail or express, and will be sent (postpaid if by mail) upon the following terms:—

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| FROM THE HEIFER 10 large ivory points, well charged on both sides, | $1 50 |
| 5 large ivory points, " " " | 80 |
| Large ivory points, less than 5 " " " each | 25 |
| 1 Crust, new method, in air-tight Glass Capsule, | 2 00 |
| FROM HEALTAY INFANTS, 10 small Ivory Points, | 1 25 |
| 1 Crust from unruptured Vesicles, | 2 00 |

Directions for vaccination with either form of Virus, derived from methods successfully employed, will be furnished with Virus if requested.

We will warrant every package of Points and every Crust, giving a fresh supply in case of failure reported within fifteen days for Points, thirty days for Human, and ninety days for Kine Crusts. We can usually furnish Crusts one remove from the heifer if preferred.

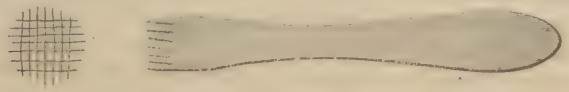
On account of their unreliability, we have hitherto furnished the usual form of Virus Crust unwillingly. Under our new method of taking and preserving them, however, after careful tests and an experience extending over several months, the results attained have been so satisfactory that we now offer them as not less active and reliable than other forms of Virus, while less liable to become inert with lapse of time. We now offer them on very favorable terms, and recommend them for transmission to a distance and in all cases where it is desirable to preserve Virus for some weeks or months, or to keep a supply at hand for emergencies.

We also furnish UNCHARGED IVORY POINTS, for physicians' use, at the following rates:—

| | |
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| Small - - - - - - - - - - - - | per 100, 25 cents; per 1,000 2 00 |
| Large - - - - - - - - - - - - | per 100, 50 cents; per 1,000 4 00 |

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OFFICE OF

# TROMMER

# Extract of Malt

## COMPANY,

## FREMONT, OHIO.

*FREMONT, OHIO, April*, 1878.

*DEAR SIR:—*

It is now five years since we first introduced and began the manufacture of Extract of Malt in the United States. It has been our aim to furnish the medical profession in America with a malt-extract equal to the best German make, and (by saving the expenses of importation) much cheaper than the foreign article can be afforded. For the manner in which our efforts have been appreciated by the medical profession, we desire to express our warmest thanks.

The difficulties attending the manufacture of Extract of Malt in large quantities, can be overcome only by that kind of skill which is acquired by experience. Its constituents must receive no injury by the process and good flavor and keeping quality, adapting it to all climates, must characterize the product. All are familiar with the striking difference between certain celebrated brands of ale and porter —and yet the poorest as well as the best, is, or should be, produced from barley malt and hops. Success greatly depends, of course, upon the employment of none but the best material; but it is by the use of specific and long tried procedures that results are obtained which are so difficult to rival.

We do ourselves but simple justice, in stating that our *entire attention* is and for many years has been, *exclusively* devoted to the manufacture of Extract of Malt for medical purposes, and that we give our undivided personal attention to each step in the delicate process by which Extract of Malt of excellent quality can alone be made.

Under these circumstances, it is unreasonable to suppose that the various manufacturers of fluid extracts, elixirs, pills, &c., who (attracted by the high reputation of our Extract of Malt) have recently, in various sections of the country, undertaken the manufacture of a similar article, should generally succeed in producing it of a quality according with the fulsome praise with which their advertisements are filled. While being perfectly willing to let the reputation of our Extract of Malt rest upon its real merits, we owe it to the medical profession, is well as to ourselved, to give warning against imposition.

It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the

substance called GRAPE SUGAR or MALTINE, which, as is well known is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugarhouse syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining *diastase*, which (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extrac.

It is *malt extract* prepared from Barley malt combined with the proper proportion of Hops, that has been for many years the standard medicinal-nutritive employed by the medical faculty of Europe, and especially of Germany. Its value has been established by experience, and its use in the treatment of almost all forms of disease of nutrition is constantly extending. We shall continue to devote the most scrupulous attention of the maintenance of the reputation of our malt extract, by the careful selection of material and by unwearied personal attention to manufacturing details.

Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very Respectfully,

TROMMER EXTRACT OF MALT CO.

---

[*From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. XVI, page 474:*]

"The Malt Extract prepared from Trommer's receipt is designed to fulfil much the same purpose as Cod-liver oil, carbo-hydrates (malt-sugar, dextrin,) taking the place of fatty matter. The simple (much or little hopped) and the Chalybeate form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer, or wine."

t.Jy-79.

TROMMER'S

# EXTRACT OF MALT.

The rapidly increasing demand for our Improved Extract of Malt, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age. Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expense of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The extract is prepared by an *improved process*, which prevents injury to its properties or flavor by excess of heat. IT REPRESENTS THE SOLUBLE CONSTITUENTS OF MALT AND HOPS, viz: Malt, sugar, dextrine, diastase, resin and bitter of hops, phosphates of lime and magnesia, and alkaline salts.

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO.:—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter [Diastase.] 2.469, Ash—Phosphates, 1.712. Alkalies .377; Water, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœa, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article

Yours truly. SILAS H DOUGLAS,
Prof. of Analytical and Applied Chemistry.

This invaluable preparation is highly recommended by the medical profession, as a most effective therapeutic agent, for the restoration of delicate and exhausted constitutions. It is very nutritious being rich in both muscle and fat producing materials.

The very large proportion of *Diastase* renders it most effective in those forms of disease originating in *imperfect digestion of the starchy elements* of food.

A single dose of the Improved Trommer's Extract of Malt, contains a larger quantity of the active properties of Malt, than a pint of the best ale or porter; and not having undergone fermentation, is absolutely free from alcohol and carbonic acid.

The dose for adults is from a dessert to a tablespoonful three times daily. It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquor. Each bottle contains 1½ Lbs. of the Extract.

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*Our preparations of Malt are for sale by druggists generally throughout the United States and Canadas, at the following prices*

| | | | | | |
|---|---|---|---|---|---|
| EXTRACT OF MALT, | *with Hops, plain.* | - - - - - - - | | | $1 00 |
| " " " | *Pyrophosphate of Iron, Ferrated.* | - - - | | | 1 00 |
| " " " | *Cod Liver Oil,* | - - - - - | | | 1 00 |
| " " " | *Cod Liver Oil and Iodide of Iron,* | - | | | 1 00 |
| " " " | *Cod Liver Oil and Phosphorus,* | - - | | | 1 00 |
| " " " | *Hypophosphates,* | - - - - - - | | | 1 50 |
| " " " | *Iodides* | - - - - - - | | | 1 50 |
| " " " | *Alteratives,* | - - - - - - | | | 1 50 |
| " " " | *Citrate of Iron and Quinia,* | - - - | | | 1 50 |
| " " " | *Pepsin,* | - - - - - | | | 1 50 |

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Having always exercised the greatest care in the selection of the crude materials employed, and making all pharmaceutical preparations of standard strength, in strict accordance with established and recognized formulas, I have earned and am entitled to the confidence of the profession.

**I. L. LYONS.**

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**40, 42, 44 CAMP St. and 111, 113, 115, 117 GRAVIER St.**

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During my many years' experience I have always recognized the importance of establishing in our midst a LABORATORY which would enable Physicians to procure at home, with a guarantee of purity and reliability, the many, elegant and really scientific preparations which have of late years become so popular with practitioners and patients. Supplied with the MOST APPROVED APPARATUS, and in charge of intelligent and experienced pharmaceutists, I may justly claim the products of my laboratory to be excelled by none in the country, and to be far superior to most others of foreign manufacture. I cannot attempt here to enumerate all the extensive list of my preparations, and will only call attention to the leading ones, which have, by their absolute reliability, elicited the praise and approbation of the leading physicians in this city.

I also beg to add that I am prepared to manufacture at short notice any pharmaceutical preparation which physicians may be unable to procure elsewhere.

COD LIVER OIL with PHOSPHATE OF LIME;
COD LIVER OIL with LACTO-PHOSPHATE OF LIME;
COD LIVER OIL with SOLUBLE PHOSPHATE OF LIME;
COD LIVER OIL, FERRATED;
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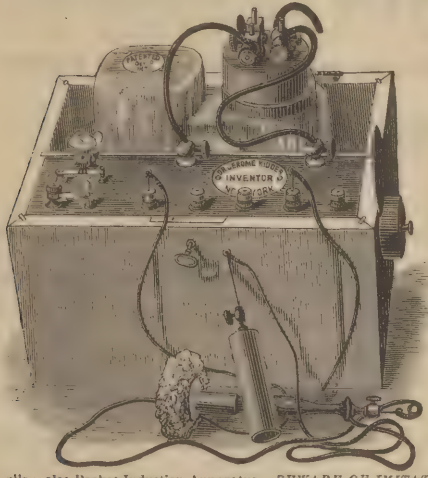
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For which he has received 21 Letters Patent for improvements, rendering them superior to all others, as verified by award of First Premium at CENTENNIAL; also First Premium by American Institute from 1872 to 1879 inclusive, and, in 1875, GOLD MEDAL.

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We have made selections from these, and collated them according to the portions of the country whence they were written. We will be happy to mail copies, upon application, to physicians who have not received them.

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For administering medication in the rectum, are most readily soluble and far superior to the ordinary suppositories.

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These cuts (two-thirds the actual size) represent a New Hypodermic Syringe of our manufacture. With the exception of the needles, it is of German Silver, a material chosen as possessing, next to steel, the greatest regidity and durability, while free from liability to oxydation. The barrel is formed by a process peculiar to ourselves, securing uniformity of calibre, without soldered joint or seam. It is plated inside and outside with nickel. The piston is packed in the double parachute form, with leather prepared expressly for the purpose. It will be found to retain its elasticity, to operate smoothly, to resist all tendency of fluid to pass above, as of air below it. A nicely engraved scale upon the piston-rod indicates minims, thirty being the capacity of the syringe.

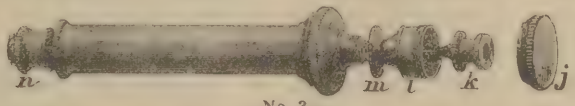
Syringes Nos. 2, 3 and 4 have also a screw thread upon the piston-rod, and a traverse nut, thereby favoring the utmost nicety in the graduation of doses.

No. 3, Compact, has hollow piston-rod to receive one needle, also a protecting cover and fluid retainer; it may be carried in the Pocket Instrument or Vial Case, or without any case.

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Two sizes of needles are furnished with each instrument, Nos. 1, 2 and 4; one only with No. 3. They are of refined steel, carefully tempered, and thoroughly plated with gold; they are of small diameter and large relative calibre, sharpened to such an angle as will offer least resistance to penetration, and therefore cause least pain. At the point of union with the socket they are reinforced with an outer covering of German silver, thereby overcoming the tendency to become broken at this place. They are connected with the barrels by a screw thread.

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| PRICES.....No. 1.....$3.50. | No. 2.....$4.00. | Postage, .03. |
| " .....No. 3.....$2.50. | No. 4.....$3.50. | " .02. |




No. 3.

These syringes are so thoroughly and strongly made as to be free from the annoying accidents common to most Hypodermic Syringes: and we believe that for convenience, durability and nicety of construction, they have no superior.

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*See our other Advertisements in successive numbers of* THIS JOURNAL.

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MAKERS AND IMPORTERS OF SUPERIOR SURGICAL INSTRUMENTS,

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# ETHYL BROMIDE;

## Or, HYDROBROMIC ETHER.

The attention of the Medical profession has been recently directed to the many advantages of Bromide of Ethyl as an Anæsthetic, over Chloroform and Ether. The exhaustive experiments of Dr. R. J. Levis and of Dr. Laurence Turnbull fully confirm all the favorable reports of former investigations. Dr. Levis has employed this agent more frequently, perhaps, than any other surgeon, and the results of his experiments prove conclusively its value.

In a large number of the administrations made by Dr Levis in the Pennsylvania Hospital, the Jefferson College Hospital, and in general private surgical practice, he used the Ethyl manufactured in our laboratory, and has expressed great satisfaction in its exhibition, on account of the absence of unpleasant odor, freedom from the objectionable characteristics of other Bromides of Ethyl sold, and on account of the rapid ethylization of the patients; so much so, that he considers it deserving of decided preference. Appreciating the great value of this new Anæsthetic, and realizing that as soon as its advantages are fully known to the profession at large, it would supersede those now in use, we have increased our facilities for its manufacture, which will enable us to supply any demand however great. Much of the commercial Bromide of Ethyl possesses a disagreeable and nauseous odor,—our product is entirely free from this objection. The advantages of Ethyl as an Anæsthetic are fully set forth by Dr. Levis in his papers, published in the *Philadelphia Medical Times*, January 17th, and February 14th, 1880.

VOL. VII. JULY, 1879. No. 1.

# THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

EDITED BY

S. M. BEMISS, M. D.,

W. H. WATKINS, M. D. S. S. HERRICK, M. D.

New Series—Published Monthly at $5 per Annum, in advance.

*Paulum sepultæ distat inertiæ celata virtus.*—HORACE.

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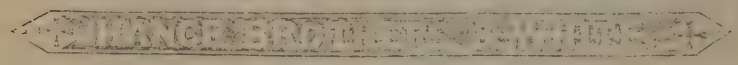



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VOL. VII. OCTOBER, 1879. No. 4.

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*Professor Materia Medica, New York Medical College*

A. VAN DEVEER, M. D.,
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VOL. VII. MARCH, 1880. No. 9.

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VOL. VII. APRIL, 1880. No. 10.

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VOL. VII. MAY, 1880. No. 11.

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OF THE

# UNIVERSITY OF LOUISIANA,

## NEW ORLEANS.

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Professor of Materia Medica and Therapeutics and Clinical Medicine.

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Lecturer on Diseases of the Eye.

ALBERT B. MILES, M.D.,
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The next annual course of instruction in this Department (now in the forty-seventh year of its exsitence) will commence on Monday, the 18th day of October, 1880, and terminate on Saturday the 12th day of March, 1881. The first three weeks of the term will be devoted exclusively to Clinical Medicine and Surgery at the Charity Hospital; Practical Chemistry in the Laboratory; and dissections in the spacious and airy Anatomical Rooms of the University.

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The regular lectures at the hospital, on Clinical Medicine by Professors Bemiss, Elliott and Joseph Jones, Surgery by Professors Richardson and Logan, Diseases of Women and Children by Professor Lewis, and Special Pathological Anatomy by Professor Chaillé, will be delivered in the amphitheater on Monday, Wednesday, Thursday and Saturday, from 10 to 12 o'clock, A. M.

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Candidates for graduation are required to be twenty-one years of age; to have studied three years; to have attended two courses of lectures, and to pass a satisfactory examination.*

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As the practical advantages here afforded for a thorough acquaintance with all the branches of medicine and surgery are *quite equal* to those possessed by the schools of New York and Philadelphia, the same fees are charged.

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*For further information upon these points see circular.